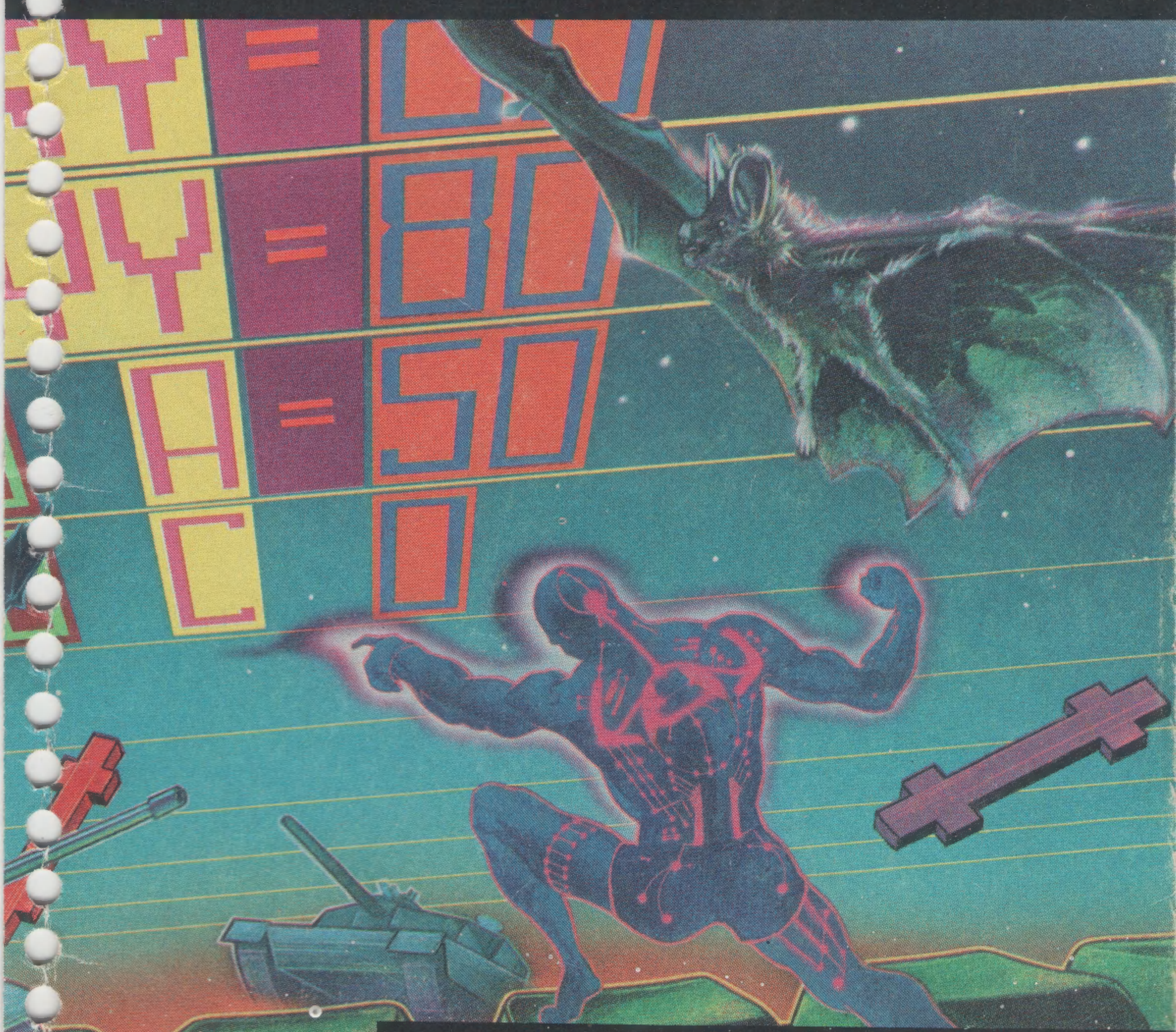
™MR. BASIC MEETS BITS 'N BYTES

INSTRUCTIONS



INTELLIVISION® MATTEL ELECTRONICS

USE WITH ANY INTELLIVISION® MASTER COMPONENT, COMPUTER ADAPTOR AND COMPUTER KEYBOARD

INTRODUCTION

™Mr. BASIC Meets Bits 'N Bytes gives you lots of game action...plus an introduction to computer programming using the BASIC language. There are 3 full games in this cartridge. Use the hand controllers to play each game...or use the Intellivision Computer Keyboard to type in simple BASIC instructions! You can use the hand controllers only... use the Computer Keyboard only... or combine the two!

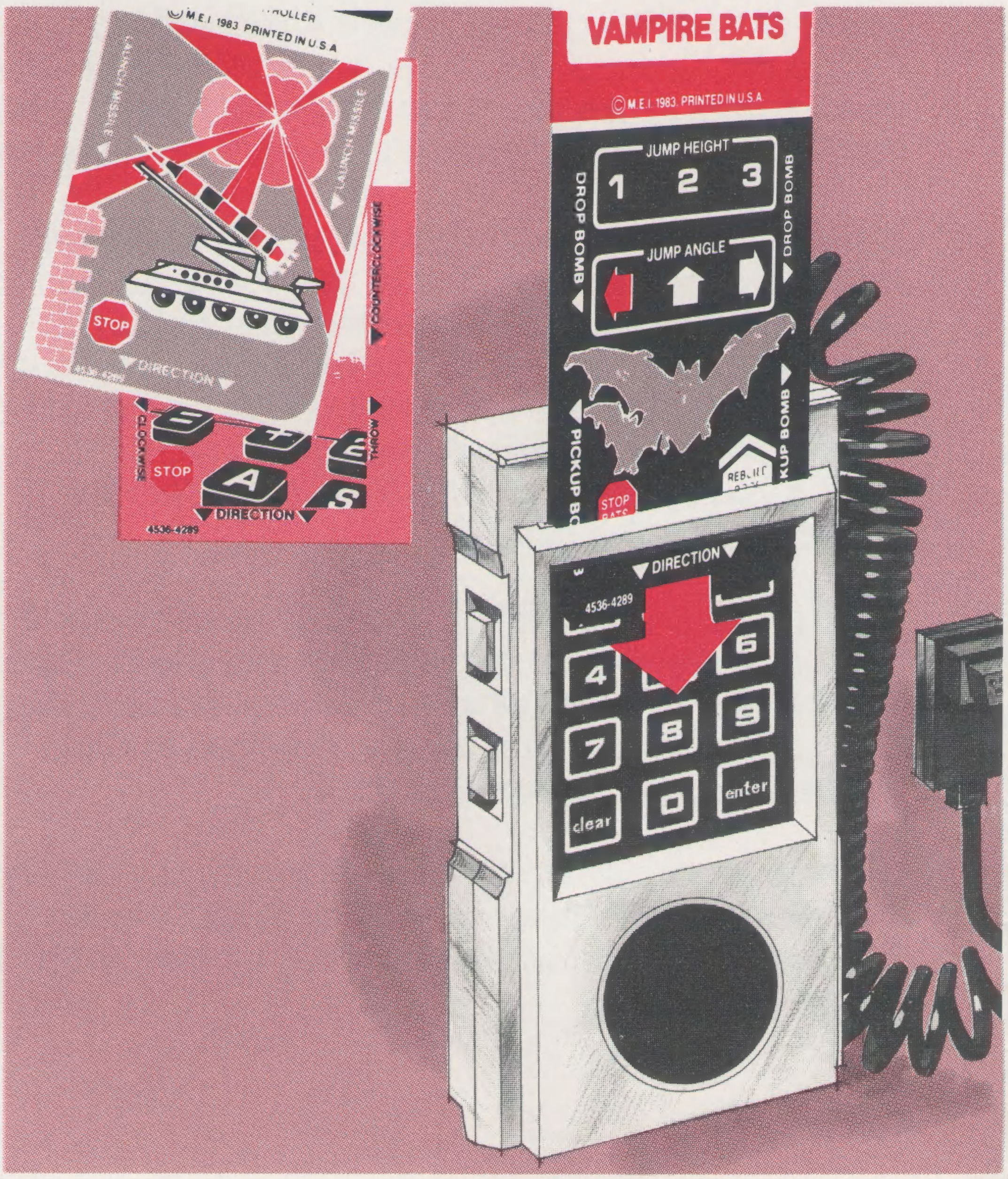
The instructions for each game are written in two sections. One explains how to use the hand controllers. One explains how to use the Computer Keyboard & introduces BASIC to play the game. Much of the general game information is included in the hand controller section. So be sure to read this, even if you only plan to use the Computer Keyboard to play the game!

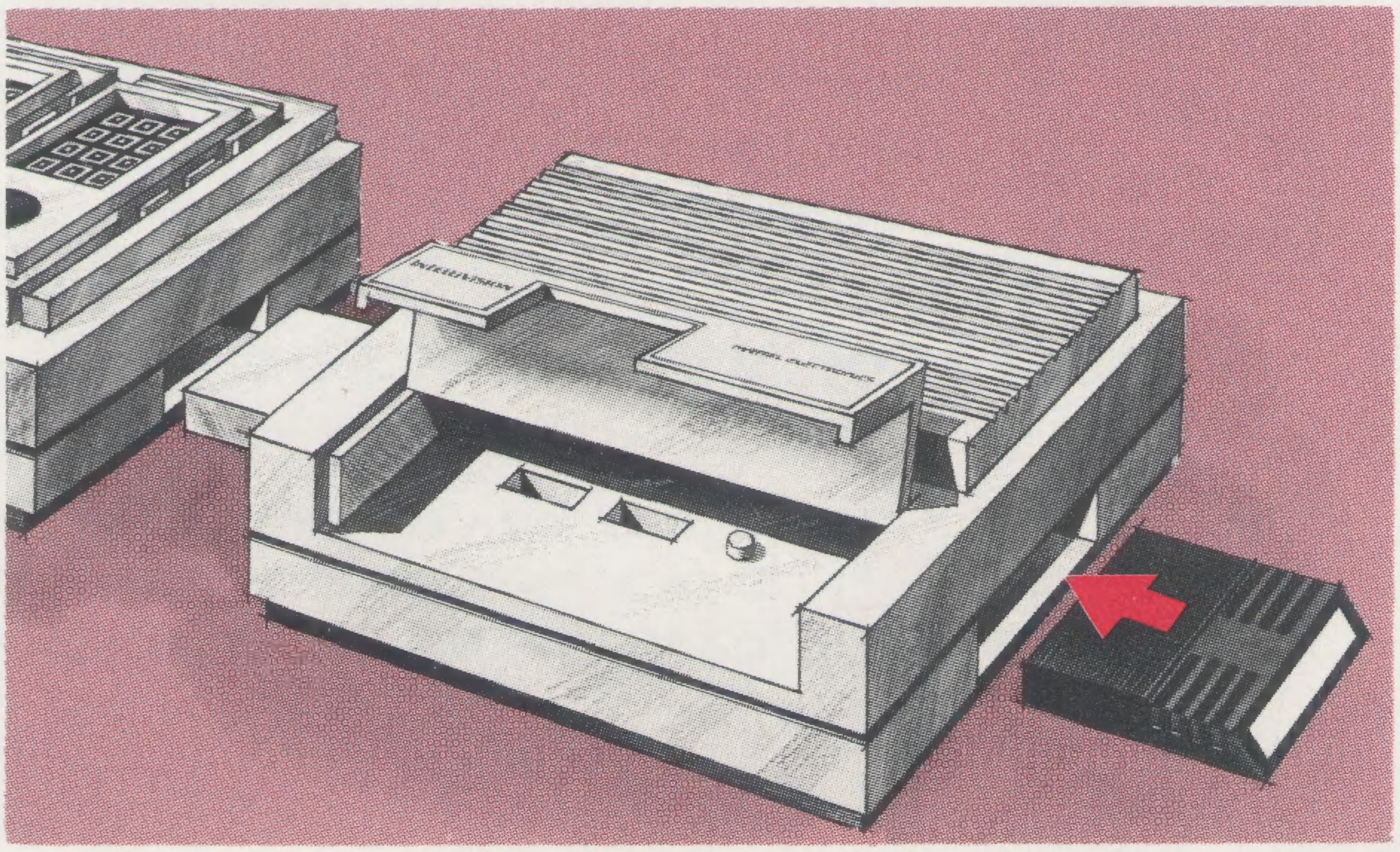
Throughout the instructions you will be referred to two books for more information about BASIC. One is the Owner's Manual which you received with your Computer Module. The other is the Step-By-Step Guide To Home Computing Book.

We hope that you enjoy playing these games! And we hope that learning Intellivision BASIC is even simpler than ever...when you learn by playing a game.

BEFORE YOU BEGIN:

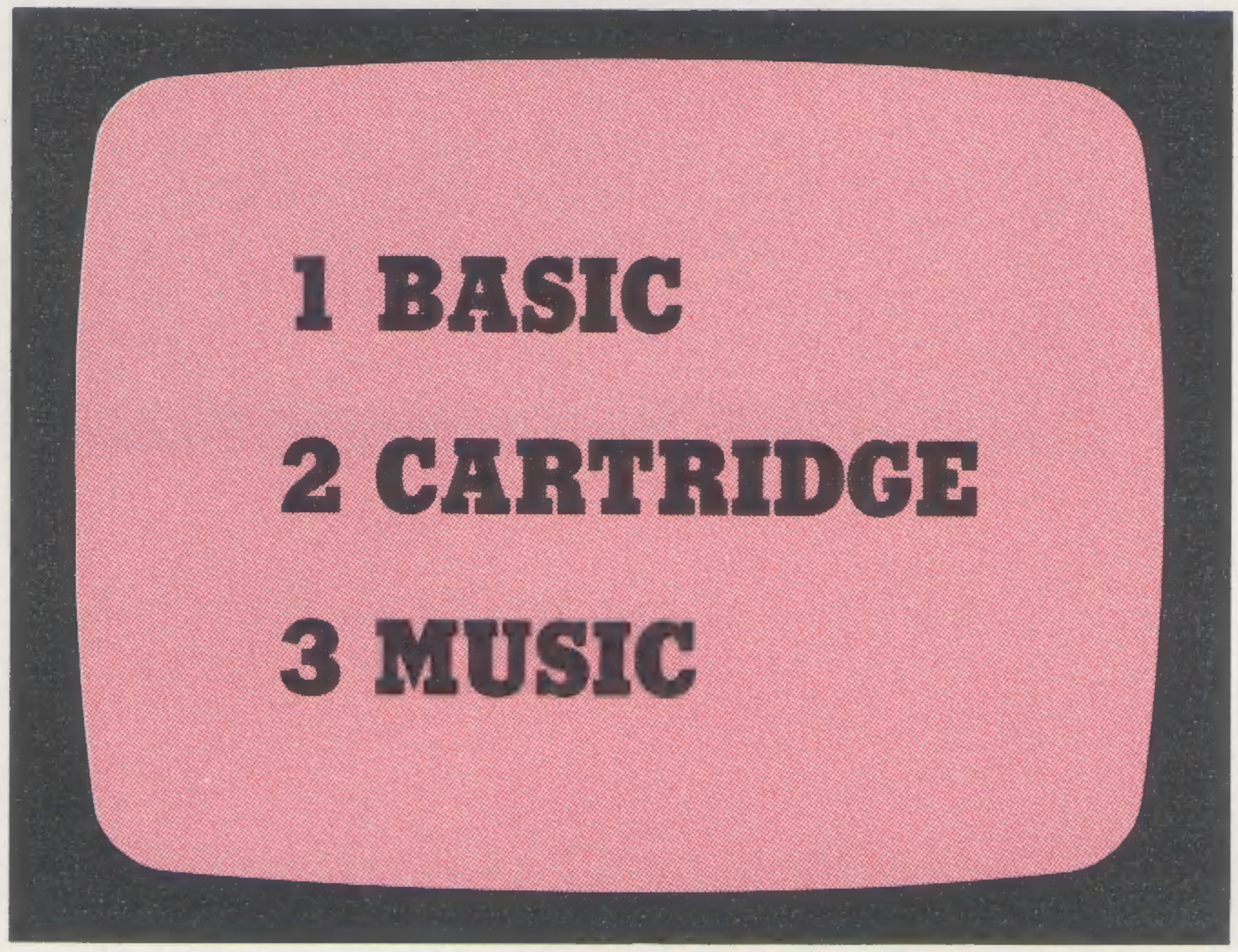
Choose the overlays for the game you will play. Now slide these overlays into the Hand Controllers as shown.





Insert the Mr. BASIC Meets Bits 'N Bytes game cartridge into the Computer Adaptor. Turn the TV and the Master Component ON.

Press Reset , then press the Disc and you see this on the screen:



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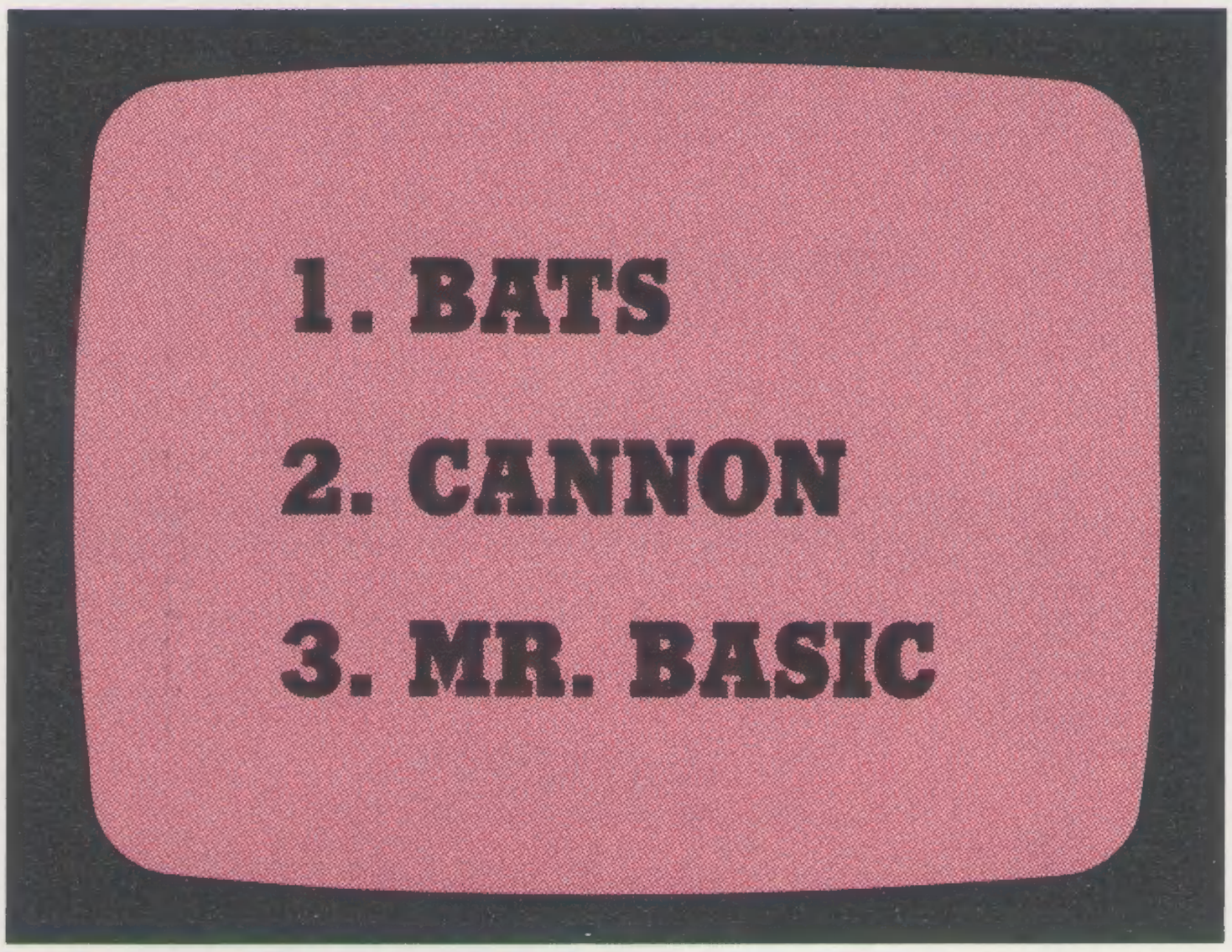
Press the 2 Key and then the ENTER Key on either hand controller. The title screen comes on.

Now press the Disc to see your choice of three games.

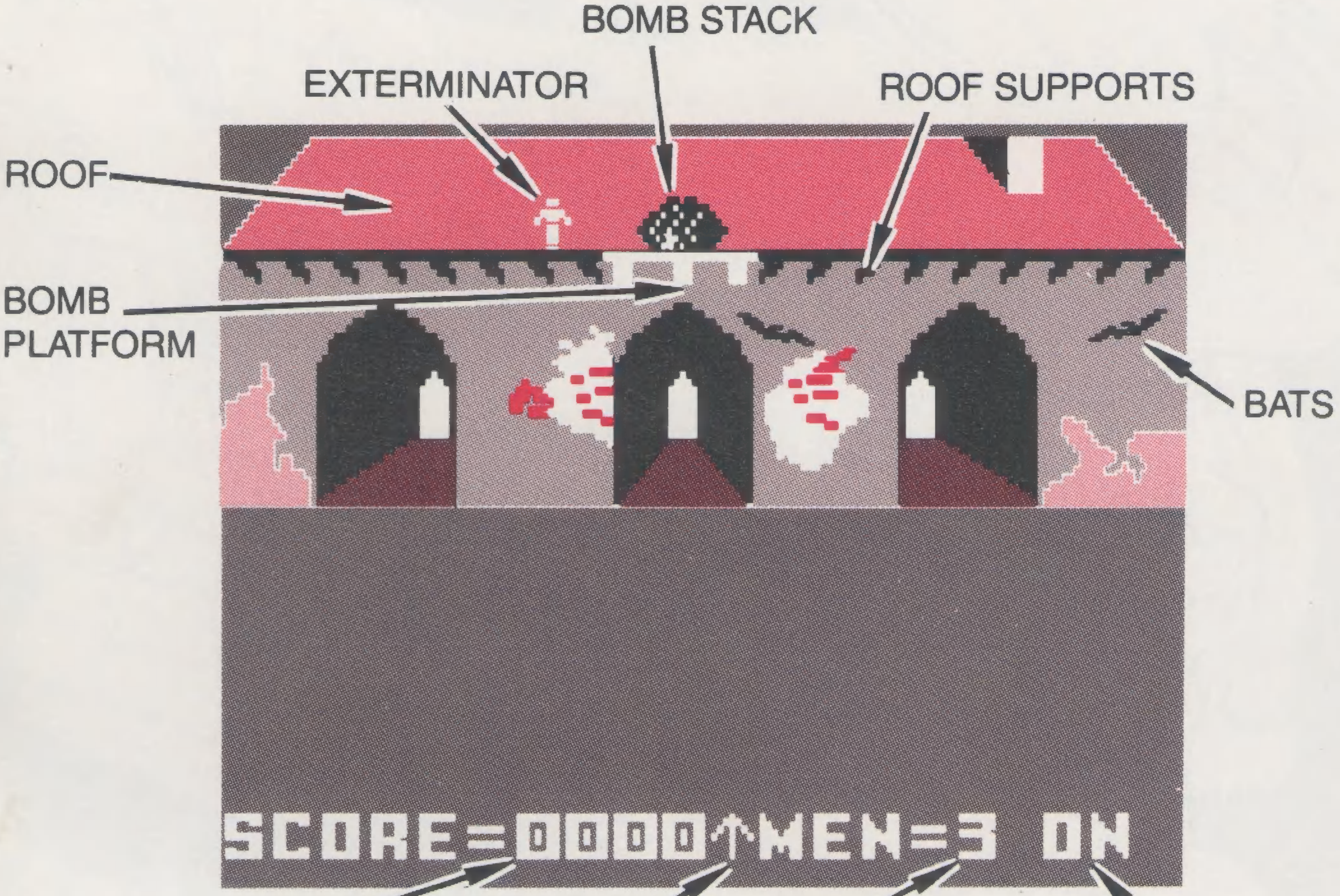
Press 1 and ENTER to play the Vampire Bats game.
Press 2 and ENTER to play the Cannon game.
Press 3 and ENTER to play the Mr. BASIC game.



THE VAMPIRE BATS' GAME:
FOR 1 PLAYER

The exterminator is trapped on the roof of an old barn. Shrieking bats are flying around just below. Bats feverously eat through the roof. Drop bombs to destroy them. Once they eat a hole in the roof, the bats fly up after the exterminator! Jump or duck to escape their vile bites!

BEGIN THE GAME

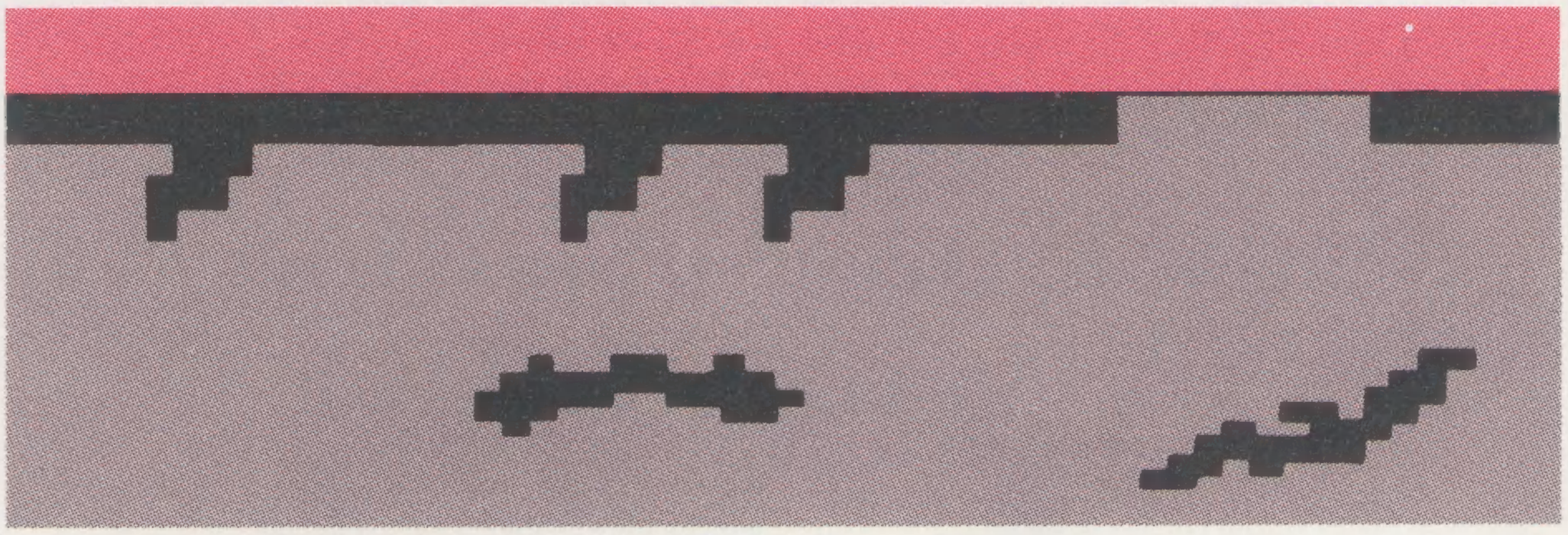


REMEMBER:

You can play this game using the hand controllers or the Computer Keyboard or both. The game play is the same no matter which controllers you use!

USE HAND CONTROLLERS TO PLAY THE VAMPIRE BATS GAME

THE ROOF & BATS: The bats have to eat through the roof before they can torment the exterminator. First they eat the supports, then they eat the roof itself. Sometimes a bat falls to the ground... gorged by eating too much! It's out of commission for awhile. The exterminator has to be especially careful once there is a hole in the roof. If he steps too far over the hole, he plunges to the ground below. This exterminator is out of the game.



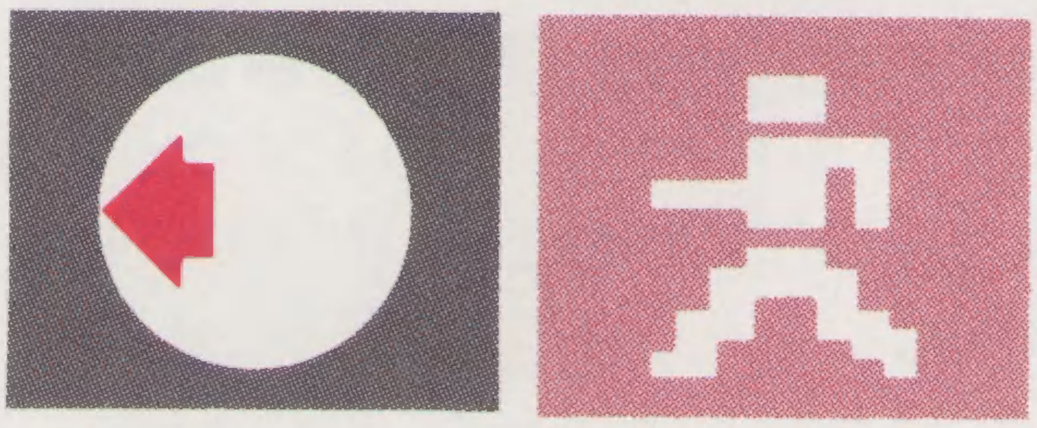
To rebuild the roof, press REBUILD ROOF on the Hand Controller. The roof is then completely intact again. You lose points when you do this, see scoring!

THE EXTERMINATOR: You have three exterminators in all. You lose one when he falls through a hole in the roof. You also lose an exterminator if he's bitten when he's still pale from a previous bite! Check the screen to see how many exterminators you have left!

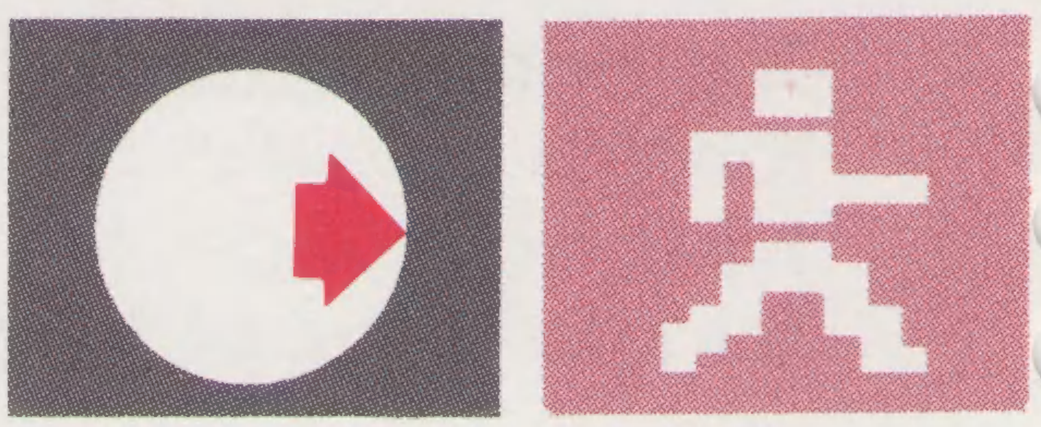
CONTROL THE EXTERMINATOR'S MOVEMENTS

You can make the exterminator run left or right... duck from the bats. . . and jump to escape bats & get over holes in the roof.

Move the exterminator left or right. Press the left side of the Disc to move him left. Press the right side of the Disc to move him right. He stops when you release the Disc.

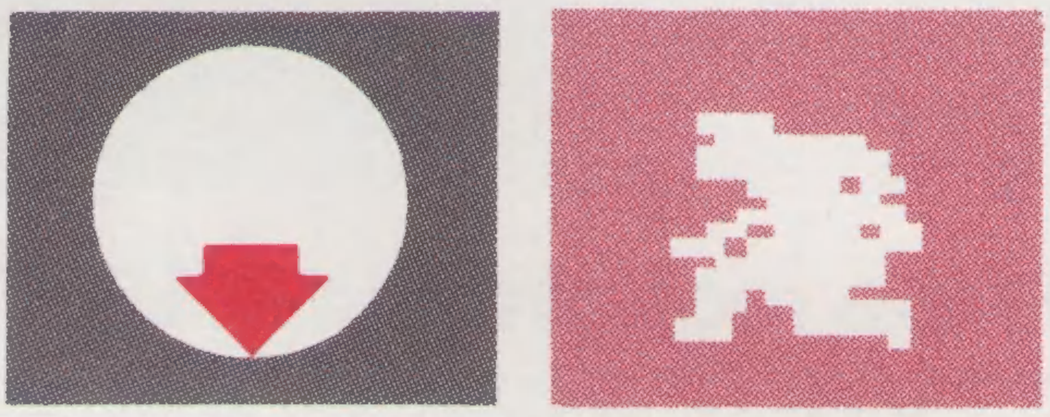


PRESS TO MOVE THE EXTER-MINATOR LEFT.



PRESS TO MOVE THE EXTER-MINATOR RIGHT.

Make the exterminator duck.
the Disc. He stands back up when you release the Disc.



PRESS TO MAKE THE EXTER-MINATOR DUCK

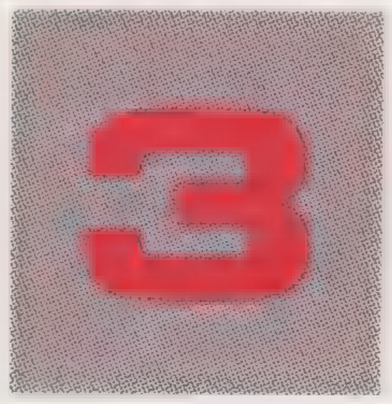
To make the exterminator jump, press the top of the Disc. He automatically jumps straight up.

If you want to choose the distance and direction of the jump, do this before you press the Disc. After he jumps, the direction goes back to straight up.

Choose the distance: The exterminator can jump 1, 2 or 3 squares.

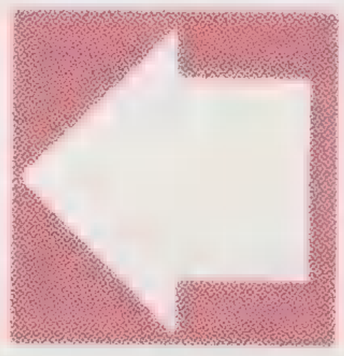
PRESS TO JUMP 1 SQUARE

PRESS TO JUMP 2 SQUARES



PRESS TO JUMP 3 SQUARES

Choose the direction: The exterminator can jump left, straight up or right.



PRESS TO JUMP LEFT

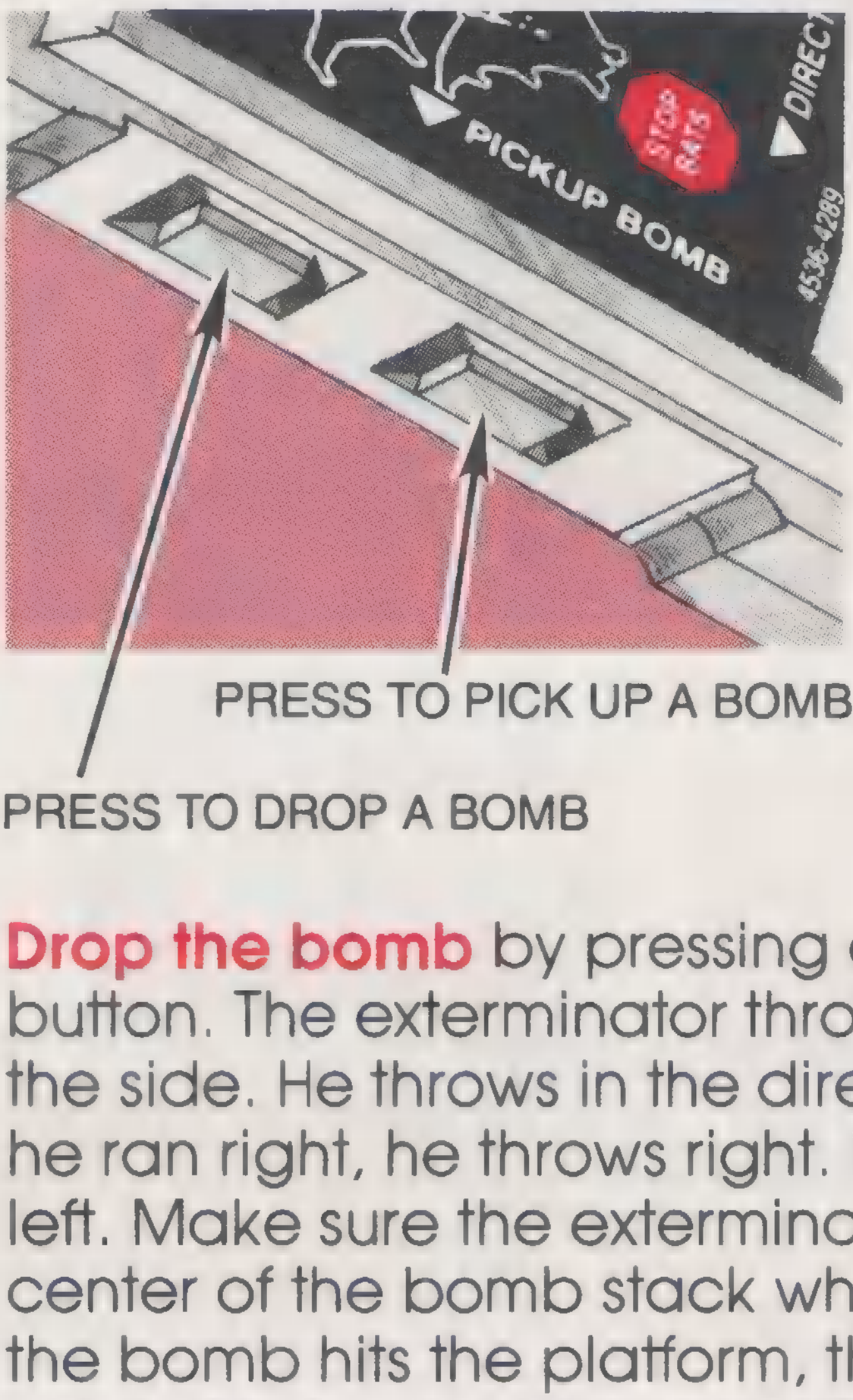
PRESS TO JUMP STRAIGHT UP

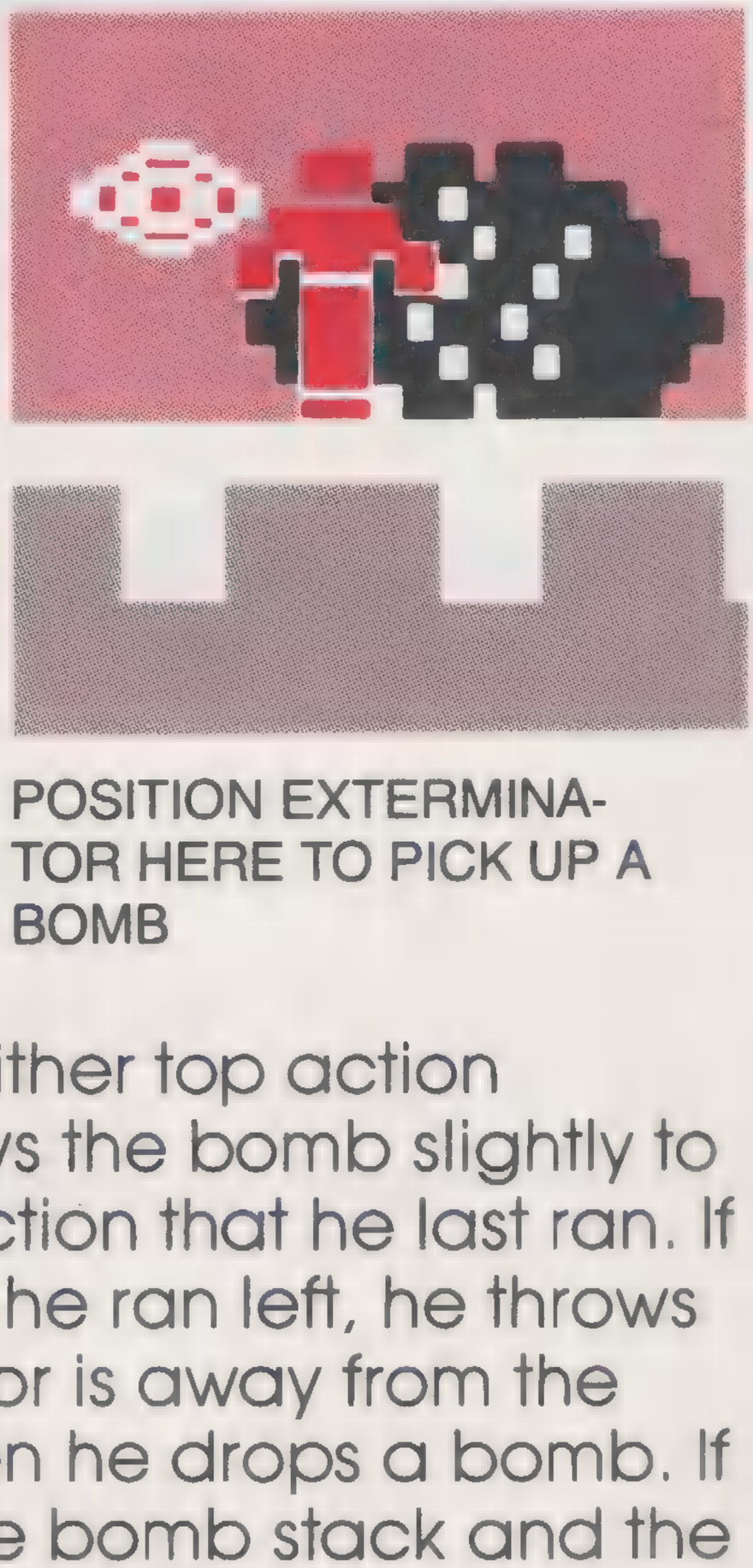
PRESS TO JUMP RIGHT

BOMB CONTROLS:

To destroy a bat, the exterminator can drop a bomb. Aim just right and it explodes a bat.

Pick up a bomb by positioning the exterminator just left or right of the center of the bomb stack. Then press either bottom action button. The bomb automatically explodes 8 seconds after it's picked up. Two seconds before the bomb explodes, it turns from blue to yellow.




POSITION EXTERMINATOR HERE TO PICK UP A BOMB

Drop the bomb by pressing either top action button. The exterminator throws the bomb slightly to the side. He throws in the direction that he last ran. If he ran right, he throws right. If he ran left, he throws left. Make sure the exterminator is away from the center of the bomb stack when he drops a bomb. If the bomb hits the platform, the bomb stack and the exterminator are blown up! The game is over.

You can only pick up one bomb at a time. Once the explosion is over, you can pick up and drop another bomb!

DON'T GET BITTEN:

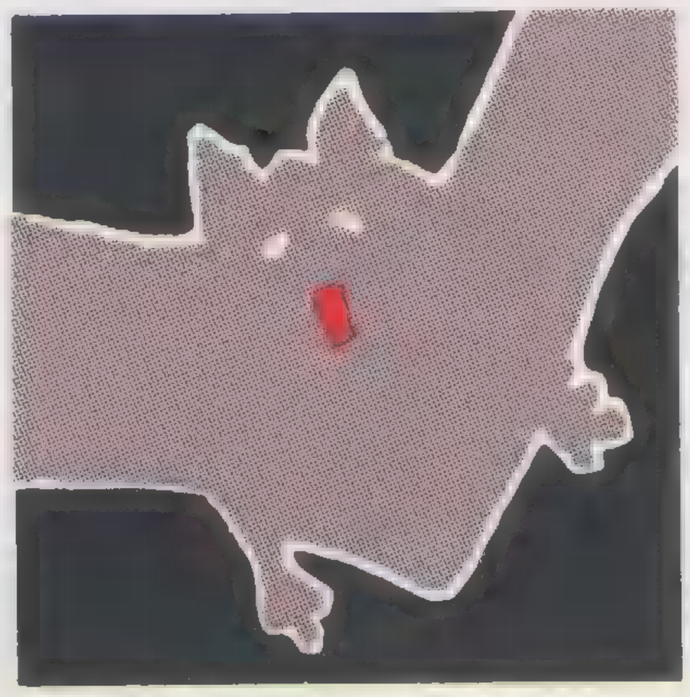
When your exterminator and a bat come in contact with one another, the exterminator gets bitten. He turns pale from the bite. The bat that bit him falls to the ground for a short time. If the exterminator is bitten again while he is still pale, you lose him!

SCORING

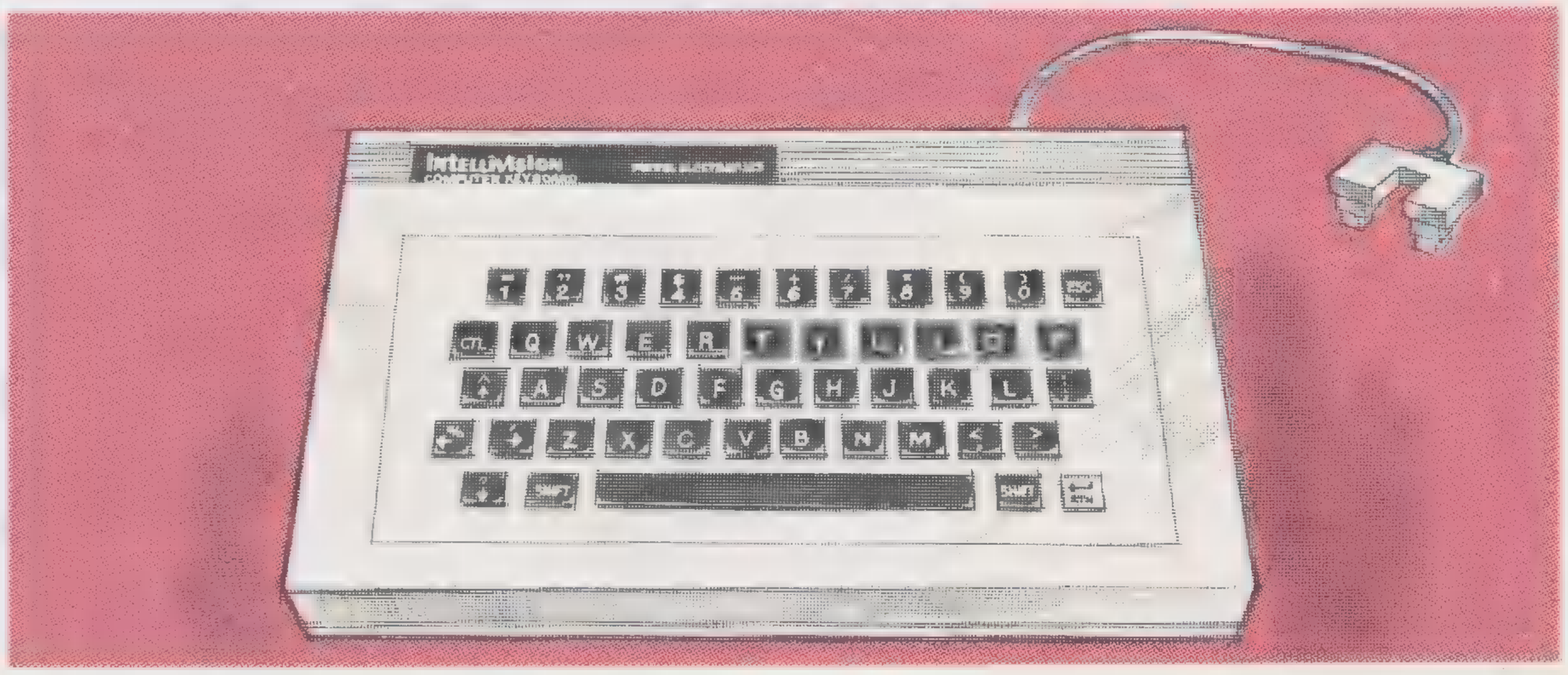
Drop a bomb	Lose 1 point
Bomb a bat	Gain 5 points
Exterminator gets bitten	Lose 5 points
Rebuild the roof	Lose 10 points

START A NEW GAME:

When you lose all 3 exterminators or when a bomb hits the platform, the game ends. Press any button or keypad key to start a new game.



USE THE COMPUTER KEYBOARD & INTELLIVISION BASIC TO PLAY THE VAMPIRE BATS GAME



You can also play the Vampire Bats Game by typing BASIC instructions into the computer with your Computer Keyboard.

MAKE SURE YOU SEE "ON"

Make sure you see ON in white letters on the screen. This lets you know the computer will follow your instructions. If you see "OFF" instead, press the [O] Key on the hand controller and ON will appear.

```
SCORE=0000↑MEN=3 ON
```

STOP THE ACTION

To keep the bats from taking advantage of you while you type in an instruction, press the STOP Key. This stops the bats in their tracks! When you have completed the BASIC instruction, press STOP again to set the bats on their way.

TIPS FOR TYPING BASIC ON THE SCREEN

You will use your keyboard keys to type in BASIC. What you type appears on the TV screen. To learn more about Intellivision BASIC, refer to your Owner's Manual and the Step-By-Step Guide To Home Computing Book.

The cursor: The flashing square at the left side of the screen is called the cursor. The next letter or symbol you type will appear where the cursor is located.

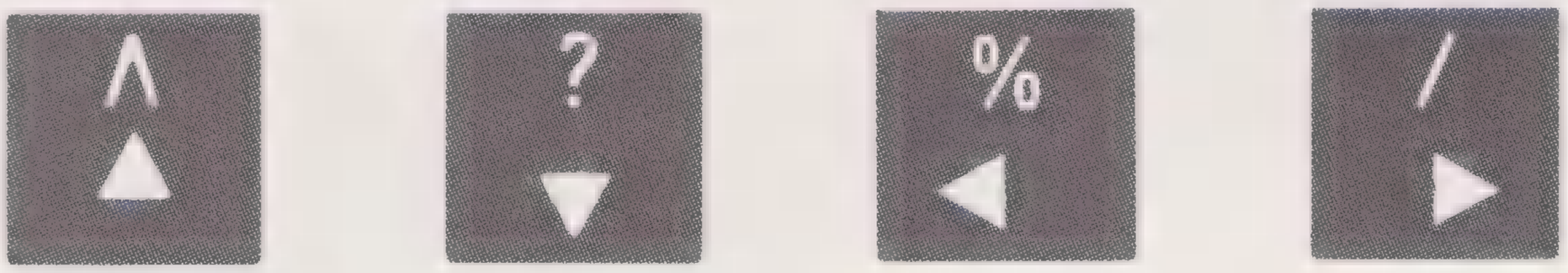
The cursor moves as you type. Be sure the cursor is at the far left of the screen before you type in BASIC instructions. If it is not, press RETURN. This sends the cursor to the left margin.

You can only type in an instruction when the cursor flashes on the screen. If it is not there, press the ESCAPE Key or the RETURN Key.

Return key: Always press the Return Key on the keyboard after you type in your instruction.

Before you press Return, the letters and symbols on the screen are black. After you press Return, they turn color. This color coding lets you know if you typed the BASIC instructions correctly.

Note: To learn more about the Return Key and Color Coding, see chapters 2 and 4 in the Step-By-Step Guide To Home Computing Book.



Correct a typing error or make a change: Use the Arrow Keys to position the cursor where you want to make the change. Next type in the change. Press the space bar to erase any character. Now use the Arrow Keys to move the cursor beyond the last character in the line and press Return.

Note: To learn more about Arrow Keys, see chapter 1 in the Step-By-Step Guide To Home Computing Book.

You can type 4-5 lines on the screen at a time. If you type more than this, the top line moves off the screen so you can continue.

When you type in a program, you can take a look at the lines that have moved off the screen. With the cursor at the left side of the screen, type in: LIST 10,40 and press Return. The first four lines of your program come on the screen. You can now correct an error, or make a change (see above). Type in LIST 50,80 and the next 4 lines come on the screen. Continue to list 4 lines at a time and make any changes you want. After you have checked all the lines, type in RUN and press Return.

Note: To learn more about LIST, see chapter 1 in the Step-By-Step Guide To Home Computing Book.

CONTROL THE EXTERMINATOR'S MOVEMENTS

Start exterminator running left or right:

Type in:

CALL RUNL

& press Return.

He begins to run to the left as soon as you press Return.

Type in:

CALL RUNR

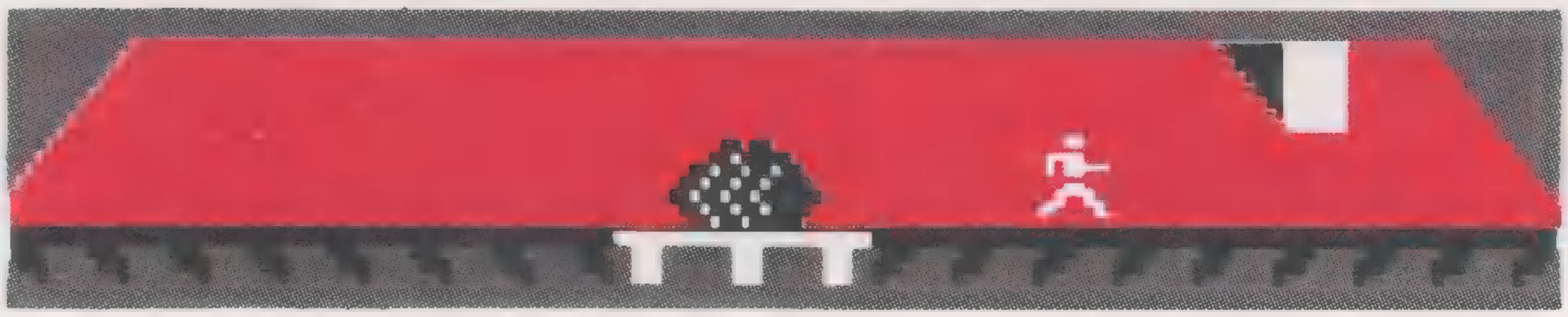
& press Return.

He begins to run to the right as soon as you press Return.

He continues to run until you stop him (see below). When he reaches the left or right edge of the roof, he runs in place.

Move the exterminator to a particular position:

The exterminator can be positioned at 145 different horizontal positions. Position 11 is at the far left, and position 156 is at the far right of the roof.



11 156

THE EXTERMINATOR CAN BE PLACED ANYWHERE IN THIS RANGE.

Choose the position you want, then type in XP2 = followed by the position number. For example, type XP2 = 145 and press Return.

XP2 = 145 tells the computer to move the exterminator to position 145. As soon as you press Return, he immediately moves to that position.

Try another position.

Type in: XP2=45

and press Return.

NOTE: To learn about the XP Function, see Functions in the Owner's Manual.

To stop the exterminator:

Type in: CALL STOP

& press Return.

He stops as soon as you press Return.

To make the exterminator duck:

Type in: CALL DUCK

& press Return.

He continues to duck until you type in:

CALL STOP

& press Return.

To make the exterminator jump,

use the hand controllers to set the distance and direction of the jump, then type in:

CALL JUMP

& press Return.

Or you can also program in the distance and direction using BASIC.

To choose the distance,

Type in: CALL JMP1

& press Return.

To set the distance at 1 square

CALL JMP2

& press Return.

To set the distance at 2 squares

CALL JMP3

& press Return.

To set the distance at 3 squares

To choose the direction,

Type in: CALL JMPL

& press Return.

To set the direction at left

CALL JMPR

& press Return.

To set the direction at right

CALL JMPU

& press Return.

To set the direction up

After you type in the distance & direction, type in CALL JUMP *and press* Return *to make the exterminator jump. For example, type in:*

CALL JMP3

& press Return.

CALL JMPR

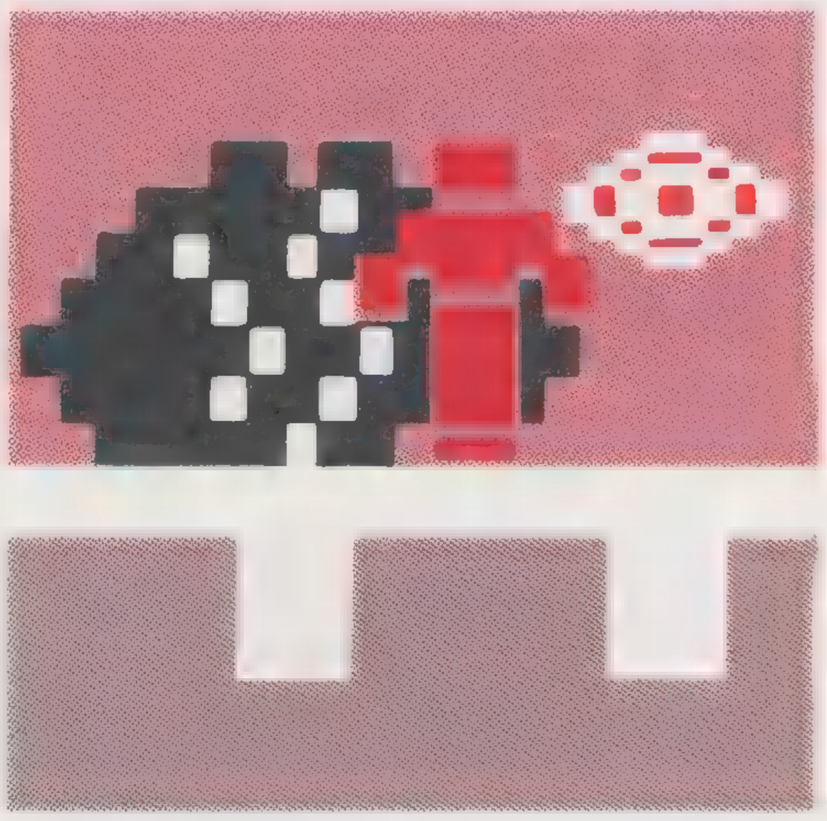
& press Return.

CALL JUMP

& press Return.

The direction you choose shows on the screen. Look at the arrow! Once the jump is completed, the direction goes back to straight up.

BOMB CONTROLS



To pick up a bomb,
use the hand controllers to move the exterminator just left or right of the center of the bomb stack.

Then type in:

CALL PKUP

& press Return.

To drop the bomb, *type in:*

CALL DROP

& press Return.

The exterminator throws the bomb in the direction he last ran. Make sure the exterminator is positioned so the bomb won't hit the bomb platform... or the game is over.

To blow up the bomb, *after it's picked up and before it denotates automatically in 8 seconds.*
Type in:

CALL BOOM

& press Return.

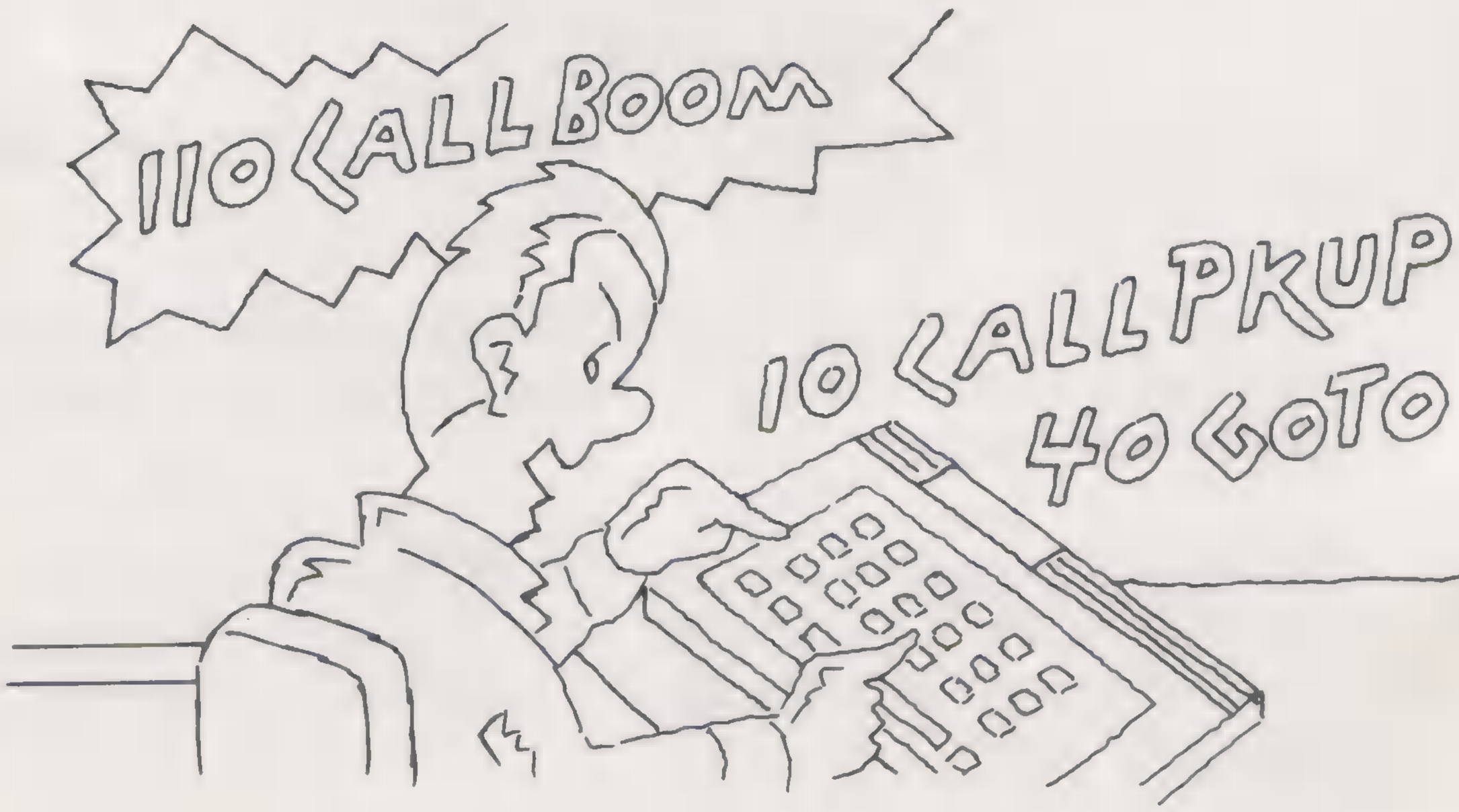
Once you press Return, the bomb blows up immediately.

WRITE PROGRAMS

Up until now the instructions you typed in to control the exterminator and the bombs used BASIC in Immediate Mode. First you typed in BASIC instructions on the screen. Then as soon as you pressed Return, the computer did what you asked. It followed your instructions immediately.

Now you will use BASIC in Programmed Mode. You will start each line of the program with a number. When you press Return, the computer holds that information. When you want the program to begin, you type in RUN and press Return.

Note: To learn more about the difference between Immediate and Programmed Modes, see Chapters 1 & 2 in the Step-By-Step Guide To Home Computing Book.



Try the following sample programs. They show you how to use Intellivision BASIC to program part of the game... or all of it!

VAMPIRE BAT PROGRAM #1

This program makes the exterminator pick up the bomb. Before you begin this program, use the Disc to move the exterminator to the center of the bomb stack.

Type in: NEW

press Return

This starts a new program

```
10 CALL PKUP
```

press Return

This makes the exterminator pick up the bomb

```
RUN
```

press Return

This runs line 10

After the exterminator picks up the bomb, you must use the hand controllers to drop the bomb.

To repeat this program, be sure the exterminator is at the center of the bomb stack. Now type in RUN *again, press* Return *and repeat.*

Note: This program used the Immediate Mode commands NEW & RUN. To learn more about these, see Chapter 1 in the Step-By-Step Guide To Home Computing Book.

VAMPIRE BATS PROGRAM #2

This program tells the computer to position the exterminator at position 84, then it will make him pick up and drop a bomb.

Type in: NEW

press Return

This starts a new program

10 CALL RUNR

press Return

This starts the exterminator running right

20 CALL STOP

press Return

This stops the exterminator

30 XP2 = 84

press Return

This places the exterminator at position 84

40 CALL PKUP

press Return

This makes the exterminator pick up a bomb

50 CALL DROP

press Return

This makes the exterminator drop a bomb to the right

RUN

press Return

This starts the program

To repeat this program, type in RUN *again, press* Return *and repeat.*

VAMPIRE BATS PROGRAM #3

This program is almost the same as #2. But here the exterminator will continue to pick up and throw a bomb indefinitely.

Type in:

```
NEW
```
press Return
```
10 CALL RUNR
```
press Return
```
20 CALL STOP
```
press Return
```
30 XP2 = 84
```
press Return
```
40 CALL PKUP
```
press Return
```
50 CALL DROP
```
press Return
```
60 GOTO 40
```
press Return

This sends the computer back to line 40 to repeat picking up & dropping bombs

```
RUN
```
press Return

To stop this program, press the ESCAPE Key on the keyboard.

Note: To learn about GOTO (listed in line 30 of program #3), see Chapter 5 in the Step-By-Step Guide To Home Computing Book.

VAMPIRE BATS PROGRAM #4

(Be sure to press Return after each line)
This program sends the exterminator to the bomb stack, makes him pick up a bomb and drop it.

Type in:

```
NEW
10 IF (XP2<81) CALL RUNR
20 IF (XP2>81) CALL RUNL
30 CALL PKUP
40 IF (VS0=-1) GOTO 30
50 FOR N = 1 TO 15
60 NEXT N
70 CALL DROP
80 CALL STOP
RUN
```

LINE 10 *checks to see if the exterminator is to the left of the middle of the bomb stack. If he is, he runs to the right.*
LINE 20 *checks to see if the exterminator is to the right of the middle of the bomb stack. If he is, he runs to the left.*
LINE 30 *tells the exterminator to pick up a bomb.*
LINE 40 *sees if the exterminator is successful in picking up a bomb... if not he tries to pick it up again.*
LINES 50 & 60 *creates a time delay, to give the exterminator time to pick up the bomb as he passes through the stack.*

LINE 70 *drops the bomb.*
LINE 80 *stops the exterminator from running.*

To repeat this program, type in RUN *again, press* Return *and repeat.*

Note: To learn about FOR... NEXT (lines 50 & 60) see Chapter 5 in the Step-By-Step Guide To Home Computing Book. To learn about IF (lines 10 & 20) see chapter 6 in this same book. To learn about the VS function (line 40) see "Functions" in the Owner's Manual.

VAMPIRE BATS PROGRAM #5:

(Be sure to press Return after each line)
This program will make the exterminator pick up a bomb, run right, make him jump if there's a hole in the roof and when he gets to the right side of the roof... he drops the bomb and blows it up!

Before running this program, make sure the exterminator is standing in the middle of the bomb stack.

Type in:

```
NEW
10 CALL PKUP
20 CALL RUNR
30 CALL JMP3
40 IF (LK(2) = 0) GOTO 70
50 IF (XP2 > 110) GOTO 70
60 GOTO 40
70 CALL JUMP
80 CALL DROP
90 FOR N = 1 TO 15
100 NEXT N
110 CALL BOOM
RUN
```

LINE 10 *picks up a bomb.*
LINE 20 *starts the man running to the right.*
LINE 30 *sets the jump distance to 3 squares.*
LINE 40 *looks to see if there is a hole 2 squares ahead of the man... if so the computer goes to line 70.*
LINE 50 *the computer continues to look for a hole in the roof. If the man is past 110 the computer goes to Line 70.*
LINE 60 *if he has run to the far side, the computer goes to line* 40 and looks again.
LINE 70 *makes the man jump.*
LINE 80 *makes the man drop the bomb.*
LINES 90 & 100 *creates a time delay.*
LINE 110 *detonates the bomb.*

To repeat this program, type in RUN *and press Return.*

Note: The LK function in line 40 looks to see what condition the roof is in, from 1-10 steps ahead of the exterminator. If there is a hole in the roof, LK( )=0. If LK( )=3, the computer sees the bomb platform. If LK( )=2, the computer sees the roof with supports. If LK( )=1, the computer sees the roof without supports. For example LK(3)=0 tells you there is a hole in the roof 3 steps ahead of the exterminator.

A LITTLE EXTRA BASIC

You can temporarily change the rate of speed that bombs, the exterminator and the bats fall. There are 15 possible rates of speed. 1 is very slow, and 15 is very fast. Let's try this:

Type in:

```
NEW
10 INPU G
20 NM0=G
30 CALL CNGG
RUN
```

LINE 10 *tells the computer to wait for you to type in a number* (1-15) *and press* Return.
LINES 20 and 30 tell the computer to use the rate of speed you chose.

For example, after you typed in the program, type in the number 15 *and press* Return. *Now drop a bomb with the hand controllers and see how fast the bomb falls.*

Try this again but use another speed number. Type in RUN *and press* Return. *Now type in* 5 *and press* Return. *Drop a bomb and see how this changed the rate of fall.*

Note: To learn about Input (INPU), see Chapter 4 in the Step-By-Step Guide To Home Computing Book.

You can temporarily change the objects on the screen to different colors. First you need to know that every object on the screen has been given a number.

0 = *the fuse*
1 = *the bomb*
2 = *the exterminator*
3 = *a bat*
4 = *a bat*
5 = *a bat*
6 = *a bat*
7 = *a bat*

You also need to know that there are fifteen possible colors. Colors are numbered 0-15. See Chapter 9 in the Step-By-Step Guide To Home Computing Book to get the color particulars.

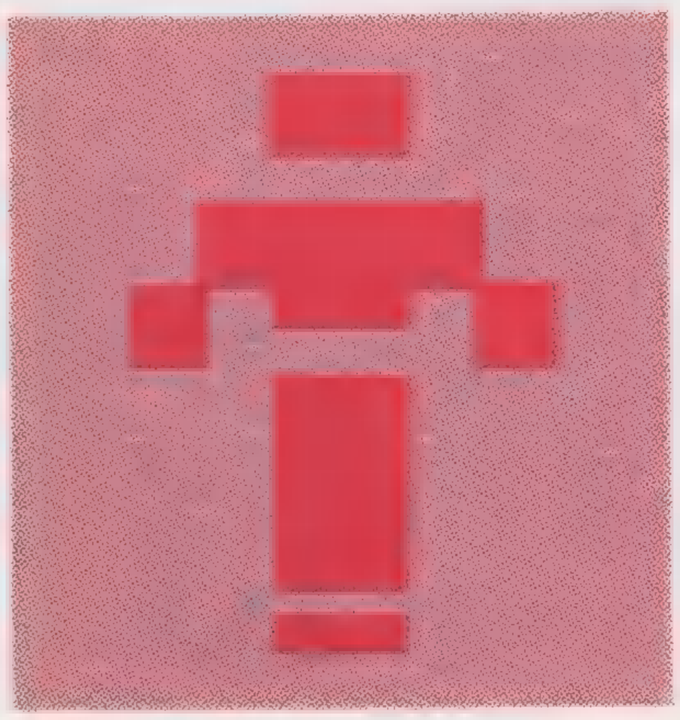
Now let's try it... (Press Return after each line)

Type in:

```
10 INPU O
20 INPU C
30 CO(O) = C
40 GOTO 10
RUN
```

LINE 10 *tells the computer to wait for you to type in an object number* (0-7) *and press* Return.
LINE 20 *tells the computer to wait for you to type in a color number* (0-15) *and press* Return.
LINE 30 *makes the object you chose turn the color you chose.*
LINE 40 *starts the program over again...enter another object number and another color number.*

For example, after you typed in the program, if you enter 2 and press Return, and enter 12 and press Return, the exterminator turns pink.



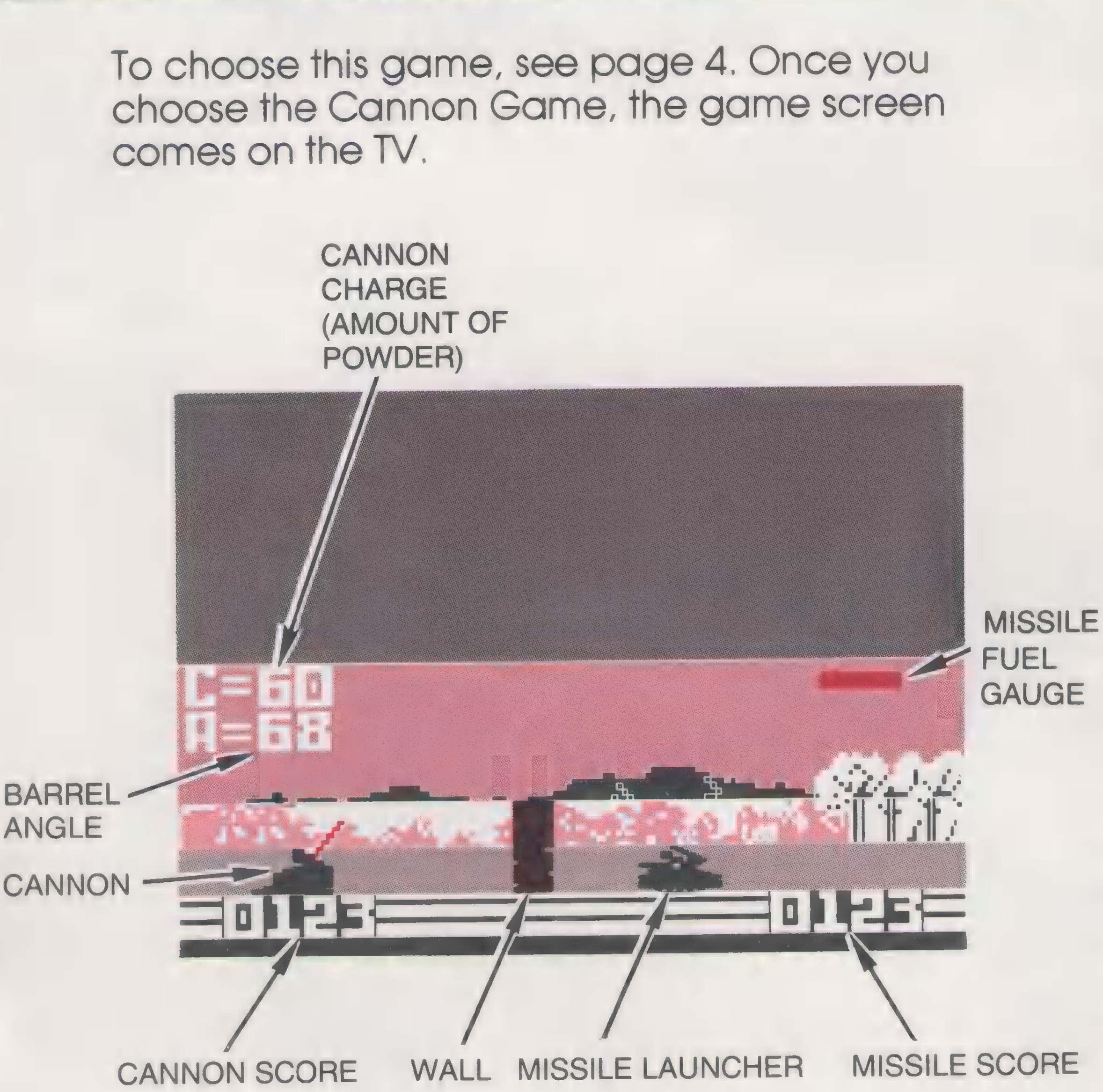
THE CANNON GAME:

For 2 Players

A cannon and missile launcher are in position! Weapons pointed at each other. A moveable wall separates the two. Fire over the wall and blast your opponent! Try for the highest score.

BEGIN THE GAME

To choose this game, see page 4. Once you choose the Cannon Game, the game screen comes on the TV.

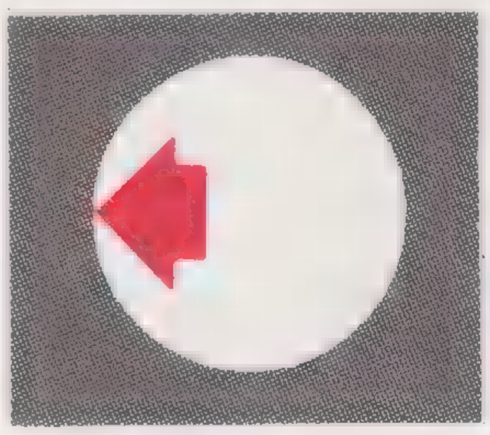


Remember: You can play this game using the hand controllers or the Computer Keyboard or both! The game play is the same no matter which controllers you use.

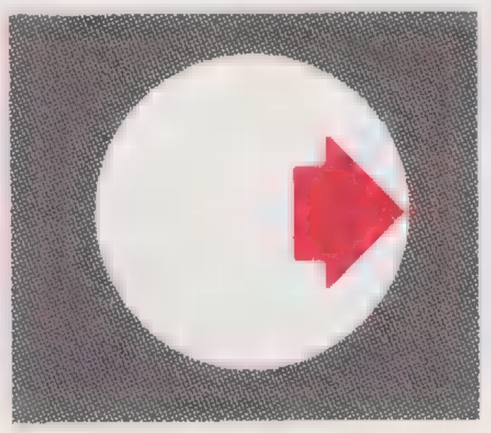
USE HAND CONTROLLERS TO PLAY THE CANNON GAME

Cannon Controls: Use the Left hand controller to control the cannon action.

Move the cannon left or right. Press the left side of the Disc to move the cannon left. Press the right side of the Disc to move it right. Release the Disc and the cannon stops. If you run the cannon into the wall, it bounces back and stops.

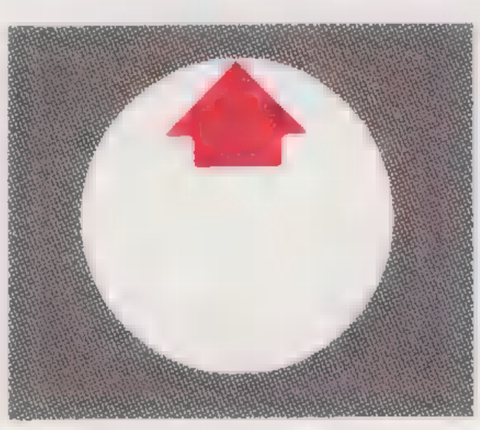


PRESS TO MOVE
THE CANNON LEFT

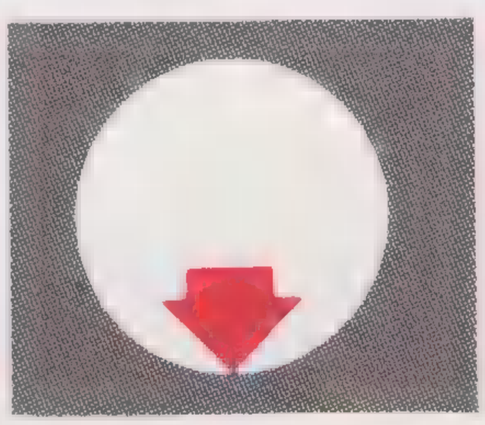


PRESS TO MOVE
THE CANNON RIGHT

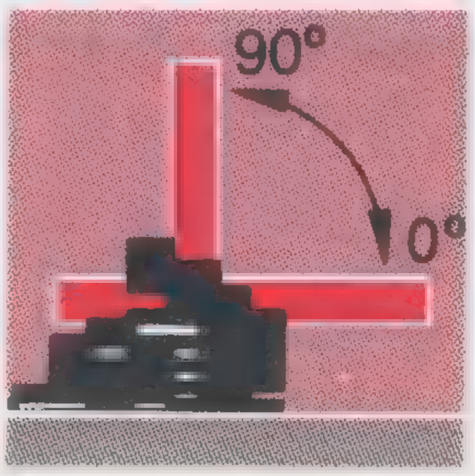
Adjust the angle of the cannon barrel by pressing the top or bottom of the Disc.



PRESS TO RAISE THE BARREL



PRESS TO LOWER THE BARREL



ADJUST THE BARREL TO THIS RANGE OF ANGLES.

Fire the cannon by pressing either of the top action buttons. The cannon ball fires at the opponent. The amount of charge behind the ball varies at random for each shot. The cannon has unlimited ammo!

Make a direct hit: When you blast your opponent, the wall moves one position closer to him. If you push the wall to the right side, it's worth 100 points and the game ends!

SCORING:

Get 50 points for blasting the missile launcher. Get 10-30 points for blasting the missile. The longer your firing range... the higher the points. You get 100 points for pushing the wall to the opponent's side.

START A NEW GAME:

When the moveable wall reaches either side, the game ends. Press any button or keypad key to start a new game.

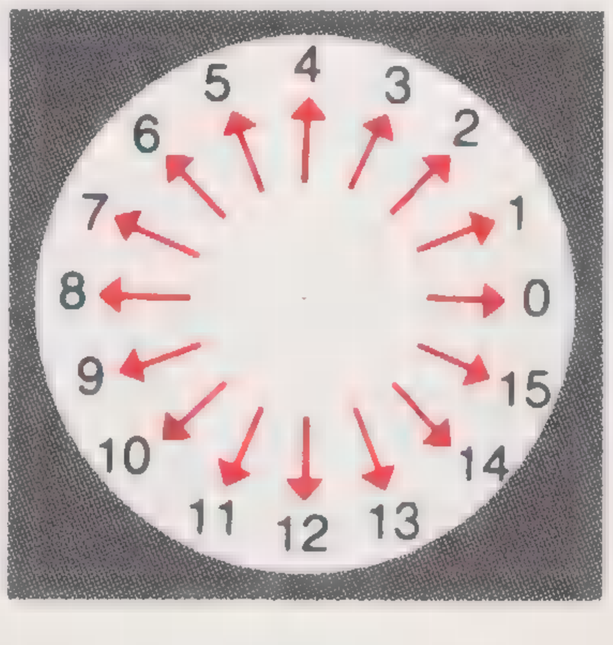
MISSILE LAUNCHER CONTROLS:

Use the right hand controller to launch and direct the missiles. The computer automatically moves the missile launcher left and right.

Launch a missile by pressing either of the top action buttons. The missile is launched with a random amount of fuel. You have an unlimited number of missiles.

THIS INDICATES THE AMOUNT OF FUEL BEHIND THE MISSILE FUEL GAUGE

Direct the missile toward the target by pressing the Disc. Press and release the Disc and the missile continues in that direction, until you press another direction. Direct the missile up... left... then down! Each time you press the Disc, you use fuel to propel the missile in a specific direction. Look at the fuel gauge to see how much fuel is left. When you release the Disc, the missile coasts until gravity sends it crashing.



YOU CAN MOVE THE MISSILE IN ANY OF THESE DIRECTIONS

Make a direct hit: When you blast your opponent you get points. See scoring.

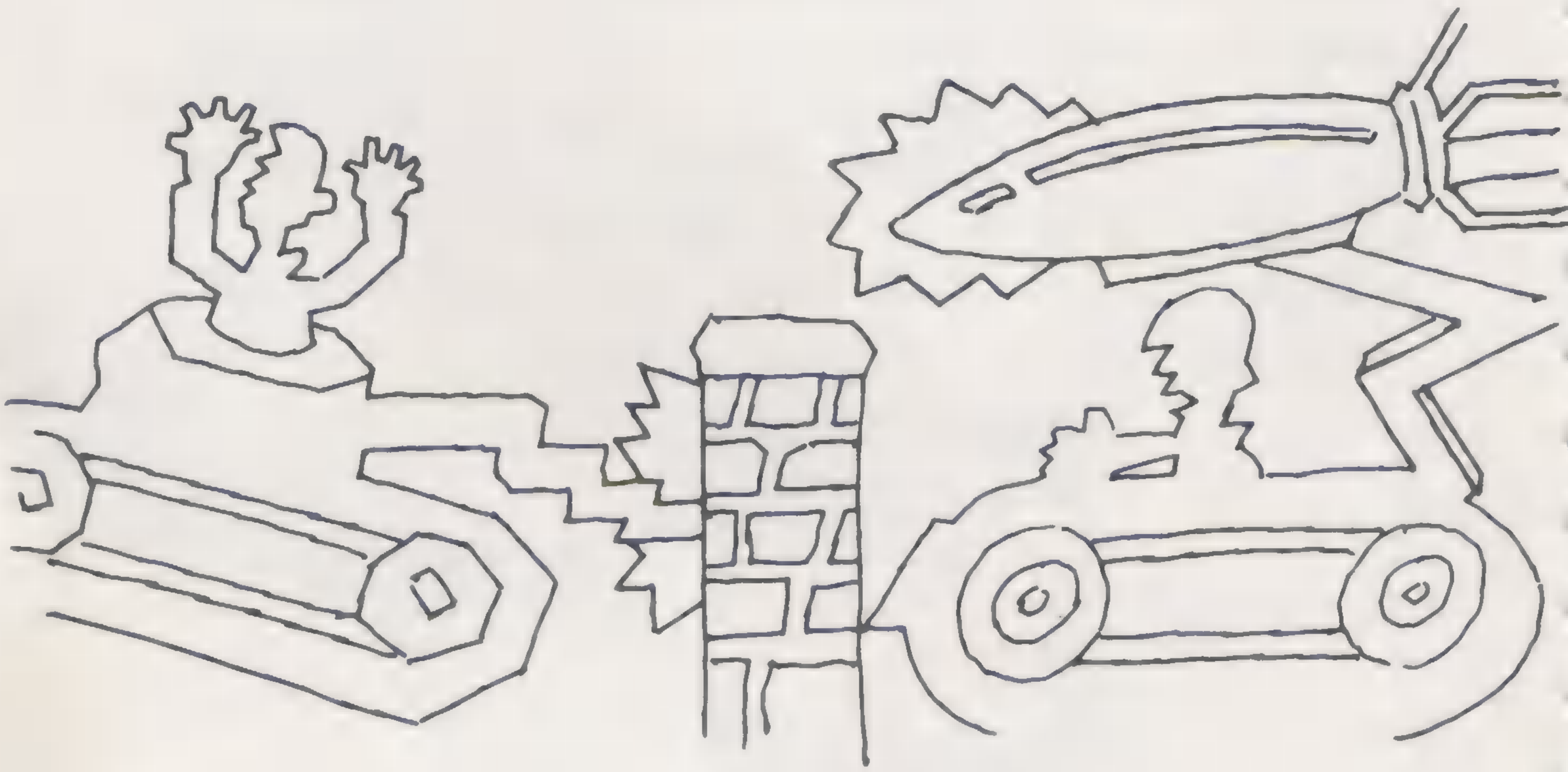
Move the wall: Each time the missile launcher hits the wall, it moves one position closer to the left. If the wall is pushed all the way to the left side, it's worth 100 points and the game ends!

SCORING:

You get 10, 20 or 30 points for blasting the cannon. The more fuel you have left when the missile hits, the higher the points. You get 100 points for pushing the wall to the opponent's side.

START A NEW GAME:

When the moveable wall reaches either side, the game ends. Press any button or keypad key to start a new game.



USE THE COMPUTER KEYBOARD & BASIC TO PLAY THE CANNON GAME

You can also play the Cannon Game by typing BASIC instructions into the computer with your Computer Keyboard.

STOP THE ACTION:

To keep your opponent from firing his weapon while you type in an instruction, press the STOP Key. This stops the action. When you have completed the BASIC instruction, press STOP again to get the action going again.

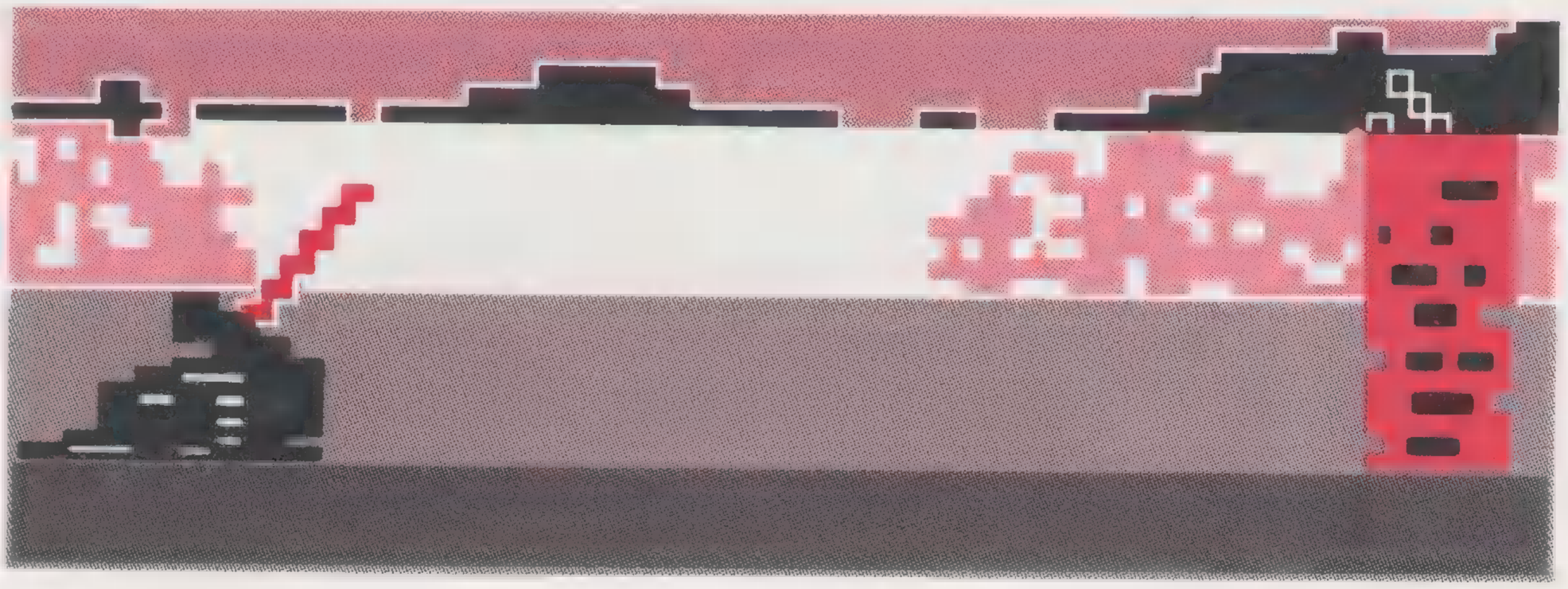
TIPS FOR TYPING BASIC ON THE SCREEN:

See page 13.

Note: Only one player can type in a BASIC instruction at a time. When one player is using the keyboard, the other player must use the hand controllers. Take turns!

CANNON CONTROLS

Move the cannon to a particular position: The cannon can move to 137 different horizontal positions... with position 22 at the far left and 158 at the far right. If you choose a position beyond the wall, the cannon bounces back and stops.



Choose the position you want, then type in CX∅ = followed by the position number & press Return.
Then type in CALL MOVC & press Return.

For example, type in:

CX∅ = 5∅

and press Return

CALL MOVC

and press Return

CX∅ = 5∅ *tells the computer to move the cannon to position 5∅.*
CALL MOVC *moves the cannon to the position you typed in as soon as you press Return.*

Try another position.

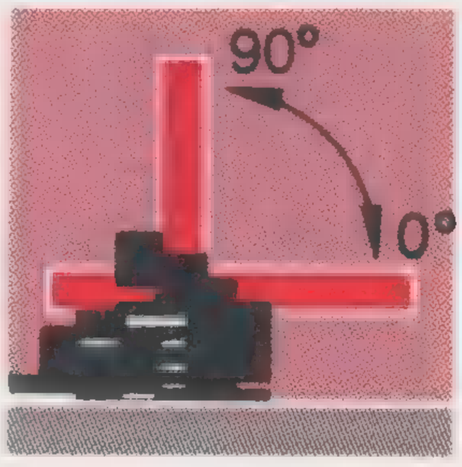
Type in:

CX∅ = 15

and press Return

CALL MOVC

and press Return



Adjust the angle of the cannon barrel: The cannon barrel can be moved to 90 different positions.

THE CANNON BARREL CAN BE ANGLED WITHIN THIS RANGE.

Choose the angle you want, then type in AN0= followed by the angle number and press Return. Then type in CALL ANGL and press Return.

For example, type in:

AN0 = 45

and press Return

CALL ANGL

and press Return

AN0 = 45 *tells the computer to set the barrel at a 45 degree angle.*
CALL ANGL *moves the barrel to the angle you typed in as soon as you press Return.*

Try another position.

Type in:

AN0 = 70

and press Return

CALL ANGL

and press Return

Fire the cannon: You can fire one cannon ball at a time. When one disappears, you can fire off another!

Type in:

CALL FIRE

and press Return

MISSILE LAUNCHER CONTROLS

To launch a missile:

Type in:

CALL TOFF

and press Return

The missile launches as soon as you press Return.

To direct the missile: You can set the amount of thrust (higher thrust uses more fuel) and the directions the missile will follow. Thrust has a range of 1 to 4...4 is a lot of thrust. Use the same directions as the Disc directions to guide a missile, Ø-15, see page 135. (**Note:** -1 is coasting.)

Type in:

DIM AA(1)

and press Return

DIM AB(1)

and press Return

AA1 = 2

and press Return

AB1 = 6

and press Return

CALL TOFF

and press Return

AA1 = 2 *tells the computer to use a medium amount of thrust.*
AB1 = 6 *tells the computer to direct the missile slightly up and left.*

Try another number for thrust... use numbers 1-4 (AA1 = 3). *And try another number for direction... use numbers* Ø = 15. (AB1 = 4)

Note: To learn about DIM, see Chapter 8 in the Step-By-Step Guide.

WRITE PROGRAMS TO PLAY THE GAME

Up until now the instructions you typed in to control the cannon and missiles used BASIC in Immediate Mode. This means you first typed the BASIC instructions on the screen. Then as soon as you pressed Return, the computer did what you asked. It followed your instructions immediately.

Now you will use BASIC in Programmed Mode. You will start each line of the program with a number. When you press Return, the computer holds that information. When you want the computer to begin the program, just type in the RUN command and press Return.

Note: To learn more about the difference between Immediate and Programmed Modes, see Chapters 1 & 2 in the Step-By-Step Guide To Home Computing Book.

Try the following sample programs. They show you how to use Intellivision BASIC to program part of the game... or all of it!

CANNON PROGRAM #1

This program sets the angle of the barrel and fires the cannon.

Type in:

```
NEW
```

press Return

This starts a new program

```
10 AN0 = 56
```

press Return

Sets the angle of the barrel

```
20 CALL ANGL
```

press Return

Puts barrel at that angle

```
30 CALL FIRE
```

press Return

This fires the cannon

```
RUN
```

press Return

Runs lines 10-30

If you want to fire it again, type in RUN *and press* Return *and it begins again.*

Want to try another angle and run this same program? Here's what to do! With the cursor at the left of the screen, type in LIST 10 and press Return. LINE 10 appears on the screen. Use your Arrow Keys and position the cursor on the 5... now type in another number (0-90). Press the space bar to erase a number. Press, Return. Now type in RUN and press Return. By changing the number in LINE 10, you can raise or lower the barrel.

Note: This program used the Immediate Mode commands NEW & RUN & LIST. To learn about these, see chapter 1 in the Step-By-Step Guide To Home Computing book.

CANNON PROGRAM #2

(Press Return after each line)
This program will position the cannon at 25 on the horizontal plane, sets the barrel angle at 56 and fire the cannon.

Type in:

```
NEW
10 CX0 = 25
20 CALL MOVC
30 IF (XP4 = 25) GOTO 50
40 GOTO 30
50 AN0 = 56
60 CALL ANGL
70 CALL FIRE
RUN
```

LINE 10 *sets the cannon position at* 25.
LINE 20 *tells the computer to move the cannon to that position.*
LINE 30 *checks to see if the cannon is in position* 25.
LINE 40 *sends the computer to* LINE 30 *if the cannon is not in position yet.*
LINE 50 *sets the barrel angle at 56.*
LINE 60 *moves the barrel to the angle set in* LINE 50.
LINE 70 *fires the cannon.*

If you want to run this program again, type in RUN *and press* Return.

Want to use this same program and use another cannon position and another angle? Here's how! With the cursor at the left of the screen, type in LIST 10,30 and press Return. Lines 10-30 are on the screen. Use your Arrow Keys and position the cursor on the 2 in line 10. Now type in another number (22-158)* and press Return. Press the space bar to erase a number. Now change the number in parentheses in line 30 to correspond to the number in line 10. Press Return. Next type LIST 50 and press Return. Use your Arrow Keys to put the cursor on the 5... now type in another number (0-90) and press Return. Type in RUN and press Return.

*This program will not move you to a position beyond the wall.

MISSILE PROGRAM #1

(Press Return after each line)
This program launches the missile and guides it on a pre-set course. The missile will go in 3 different directions using 3 different thrusts.

Type in:

```
NEW
10 DIM AA(3)
20 DIM AB(3)
30 AA1 = 3
40 AB1 = 4
50 AA2 = 4
60 AB2 = -1
70 AA3 = 4
80 AB3 = 10
90 CALL TOFF
RUN
```

LINE 10 *tells the computer there will be 3 different thrusts.*
LINE 20 *tells the computer there will be 3 different directions used.*
LINE 30 *sets the thrust at 3.*
LINE 40 *sets the direction at 4.*
LINE 50 *sets the thrust at 4.*
LINE 60 *sets the direction at -1*
LINE 70 *sets the thrust at 4.*
LINE 80 *sets the direction at 10.*
LINE 90 *launches the missile.*

If you want to fire the missle again, type in RUN and press Return.

Want to type in different thrusts and different direction numbers and run this program again? Here's how! LIST this program four lines at a time. Use your Arrow Keys to make the changes in lines 30-70 (see Type Lengthy Programs, page 15). RUN the program again.

MISSILE PROGRAM #2

(Press Return after each line)
This program will use two thrusts and two directions to guide the missile. You will enter one thrust and one direction, then the missile launches!

Type in:

```
NEW
10 DIM AA(2)
20 DIM AB(2)
30 AA(2) = 0
40 AB(2) = -1
50 INPU A
60 AA(1) = A
70 INPU B
80 AB(1) = B
90 CALL TOFF
100 GOTO 50
RUN
```

LINE 10 *tells the computer there will be 2 different thrusts.*
LINE 20 *tells the computer there will be 2 different directions used.*
LINE 30 *sets the second thrust at 0.*
LINE 40 *sets the second direction at -1.*

LINE 50 *asks you to input a thrust number.*
LINE 60 *sets the first thrust using the number entered in LINE 50.*
LINE 70 asks you to input a direction number.
LINE 80 *sets the first direction with the number in LINE 70.*
LINE 90 *launches the missile.*
LINE 100 *lets you begin again using new inputs.*

After you run this program, the computer goes back to line 50 and waits for you to enter a fuel number (1-4) *and press* Return *. . . and enter a direction number* (0-15) *and press* Return.

For example, after you typed in the program, type in the number 2 *and press* Return. *Then type in the number* 7 *and press* Return. *Then the missile is launched.*

If you want to run this program again, type in RUN *and press* Return. *You can also* LIST *the program, change the fuel and direction numbers and run it again. Do this as you did in the Missile Program #2.*

Note: To learn about Input (INPU), see Chapter 4 in the Step-By-Step-Guide To Home Computing Book.

CANNON & MISSILE PROGRAM

(Press Return after each line)
This program will fire the missile and cannon continually.

Type in:

```
NEW
10 DIM AA(10)
20 DIM AB(10)
30 AN0 = 80
40 CALL ANGL
50 FOR N = 1TO10
60 AA(N) = 1
70 CALL FIRE
80 AB(N) = N
90 AN0 = AN0-6
100 CALL ANGL
110 CALL FIRE
120 NEXT N
130 CALL TOFF
140 CALL FIRE
150 GOTO 10
RUN
```

When the program reaches line 150, the computer goes back to line 10 and begins again . . . it continues until you press ESCAPE!

NOTE: To fully understand this program read about DIM, FOR... NEXT, and GOTO in Chapters 8 and 5 in the Step-By-Step Guide To Home Computing Book.

A LITTLE EXTRA BASIC

You can temporarily change the objects on the screen to different colors. First you need to know that every object on the screen has been given a number.

0 = *the cannon ball*
1 = *the bottom half of the missile launcher*
2 = *the top half of the missile launcher*
3 = *the missile*
4 = *the base of the cannon*
5 = *the right of the cannon barrel* *
6 = *the left of the cannon barrel*
7 = *the wall*

You also need to know that there are sixteen possible colors. Colors are numbered 0 - 15. See Chapter 9 in the Step-By-Step Guide To Home Computing Book to get the color particulars.

*This won't change color unless the game is frozen.

Now let's try it... (Press Return after each line)

Type in:

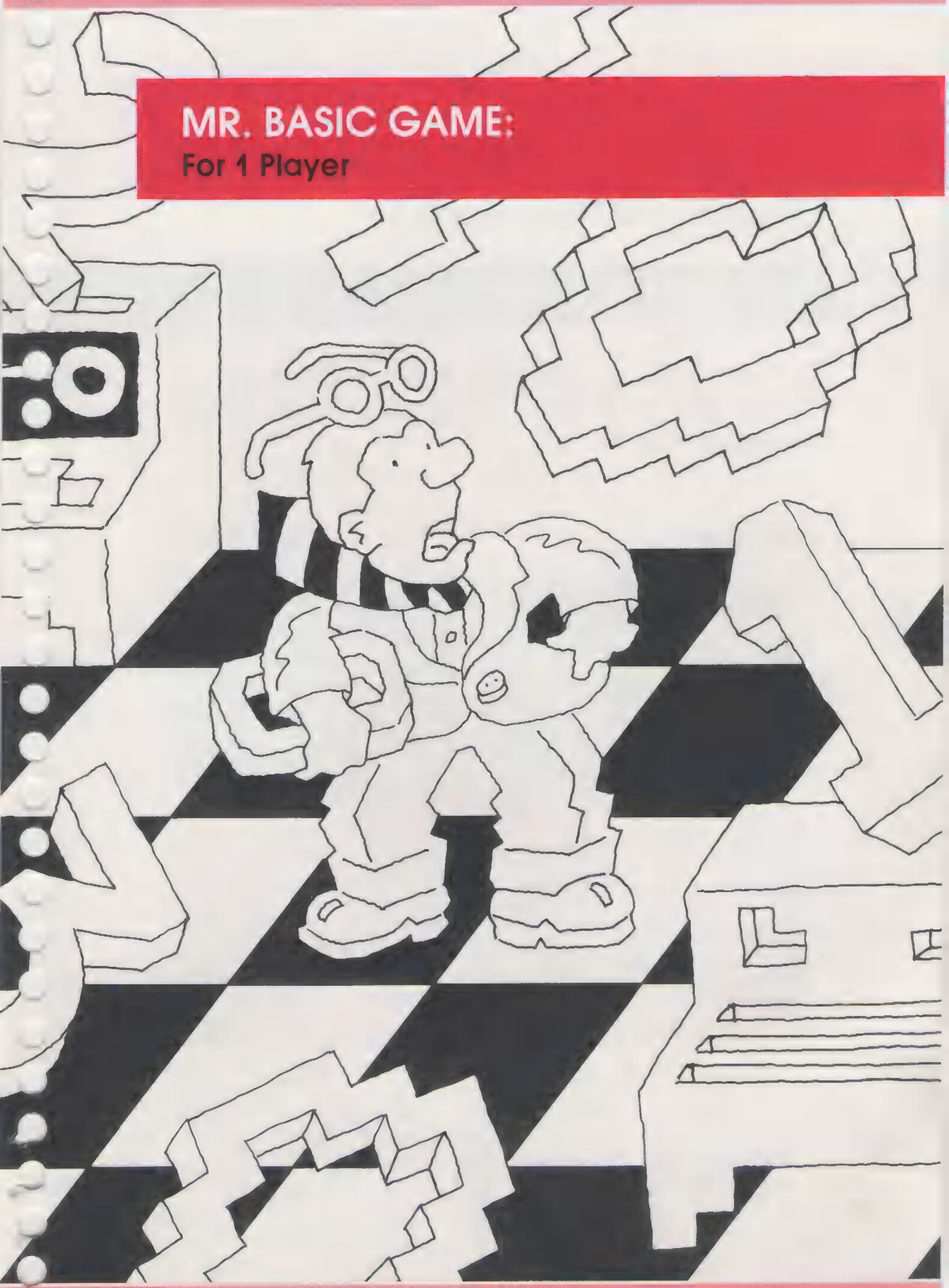
```
NEW
10 INPU O
20 INPU C
30 CO(O) = C
40 GOTO 10
RUN
```

LINE 10 *tells the computer to wait for you to type in an object number* (0-7) *and press Return.*
LINE 20 *tells the computer to wait for you to type in a color number* (0-15) *and press Return.*
LINE 30 *makes the object you chose turn the color you chose.*
LINE 40 *starts the program over again... enter another object number and another color number.*

For example, after you typed in the program, if you enter 7 and press Return and enter 12 and press Return, the wall turns pink.

MR. BASIC GAME:

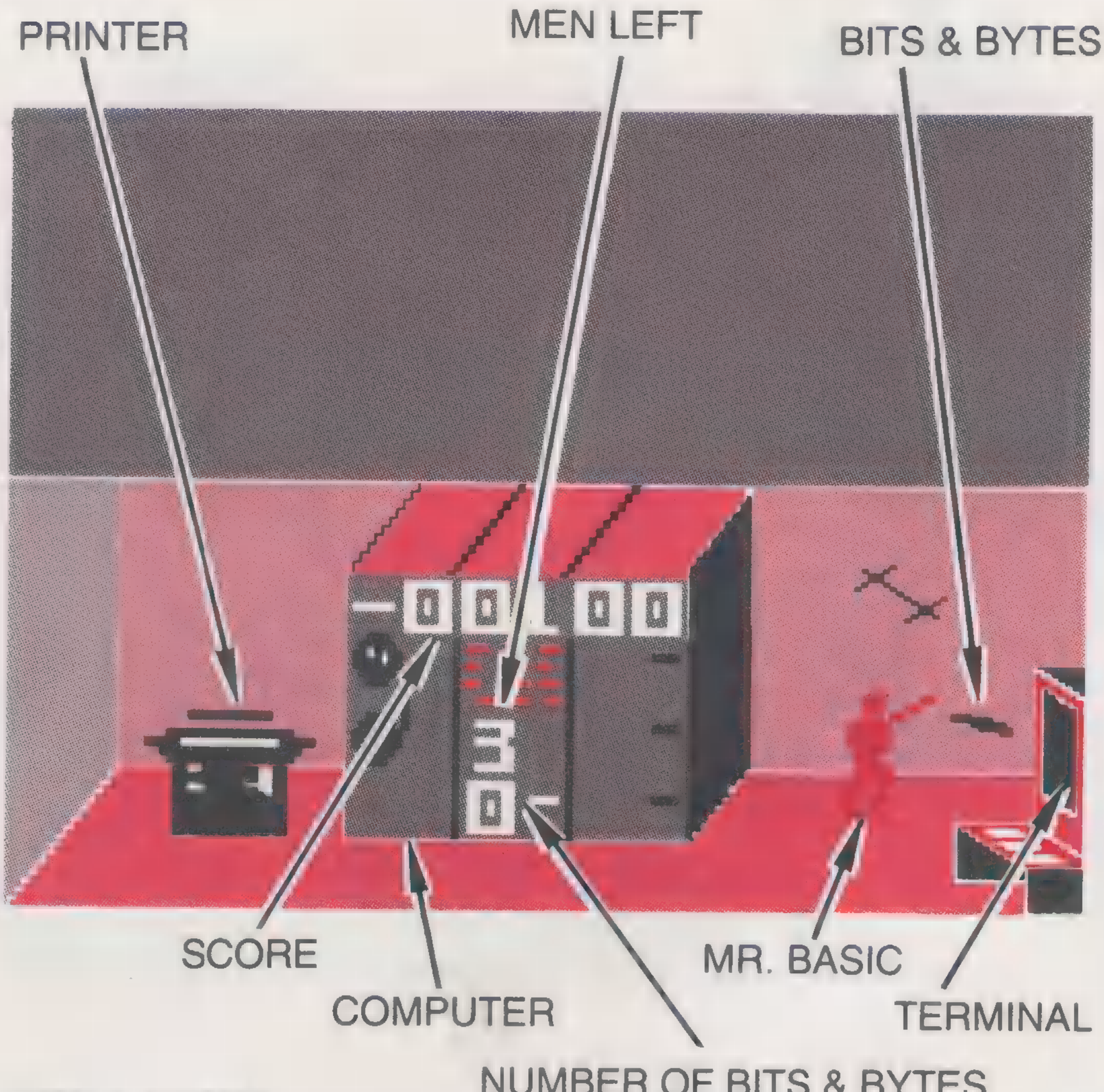
For 1 Player



The computer system is out of control! Bits and bytes of information are flying out of the printer! Mr. BASIC has to grab the bits and bytes... then throw 'em back into the terminal. This gets them back into the computer. It's a never ending job!

BEGIN THE GAME:

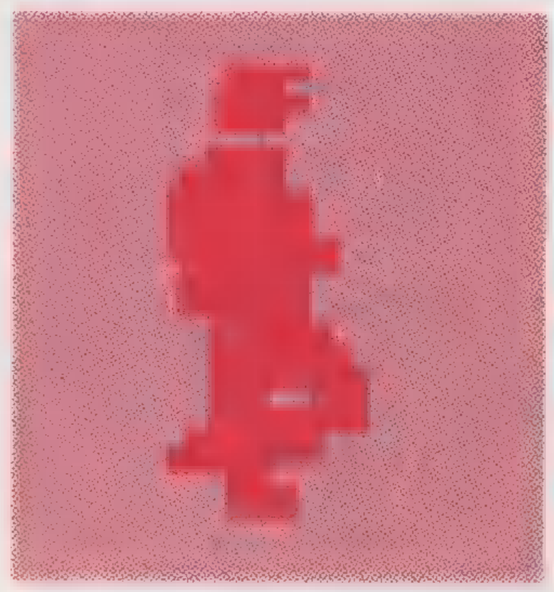
To choose the game, see page 4. Once you choose the Mr. BASIC game, the game screen comes on the TV.

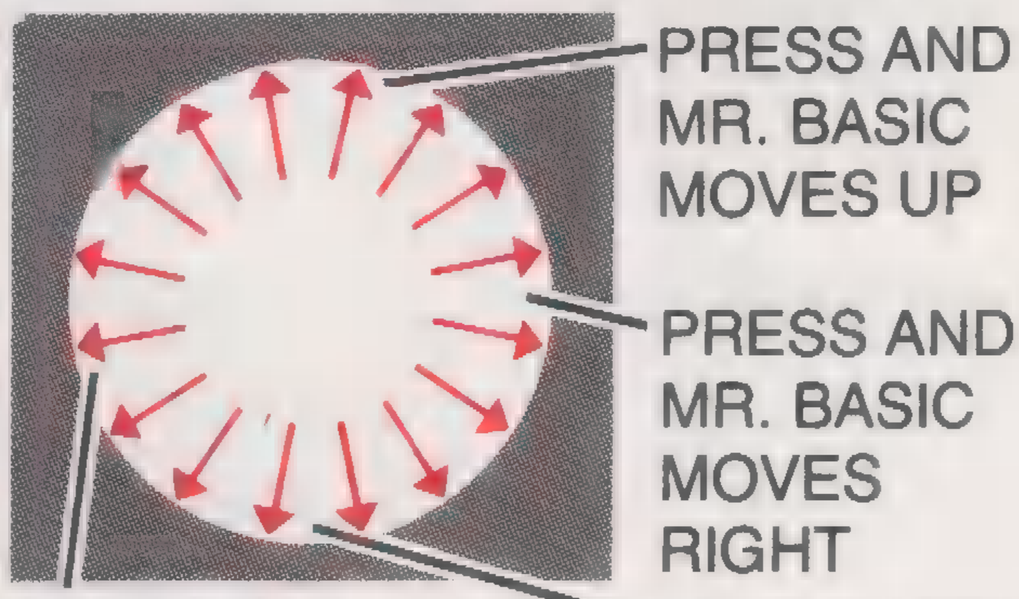


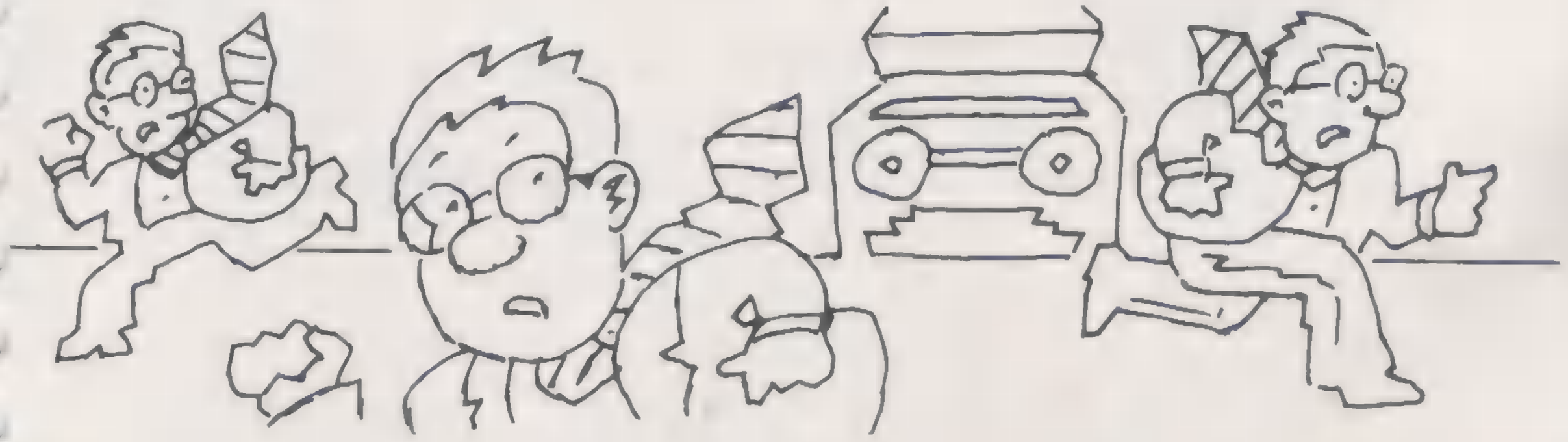
Remember: You can play this game using the hand controllers or the computer keyboard or both. The game play is the same no matter which controls you use!

USE HAND CONTROLLERS TO PLAY THE GAME

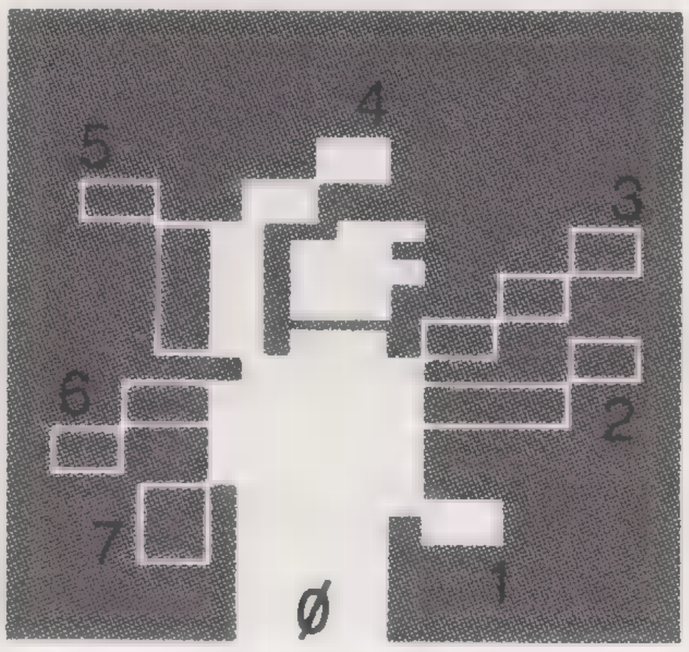
MOVE MR. BASIC: Press the Disc to Move Mr. BASIC in 16 different directions. He can run all around the computer room. But he must always keep his feet on the green floor. If you hold down the Disc and try to move Mr. BASIC off the floor, the computer automatically stops him!







Move his arm: To capture a floating bit or byte, Mr. BASIC must touch one with his outstretched arm. You can move his arm clockwise or counterclockwise to eight different positions.



MR. BASIC CAN GRAB A BIT OR BYTE WITH HIS ARM IN POSITIONS 1 TO 7

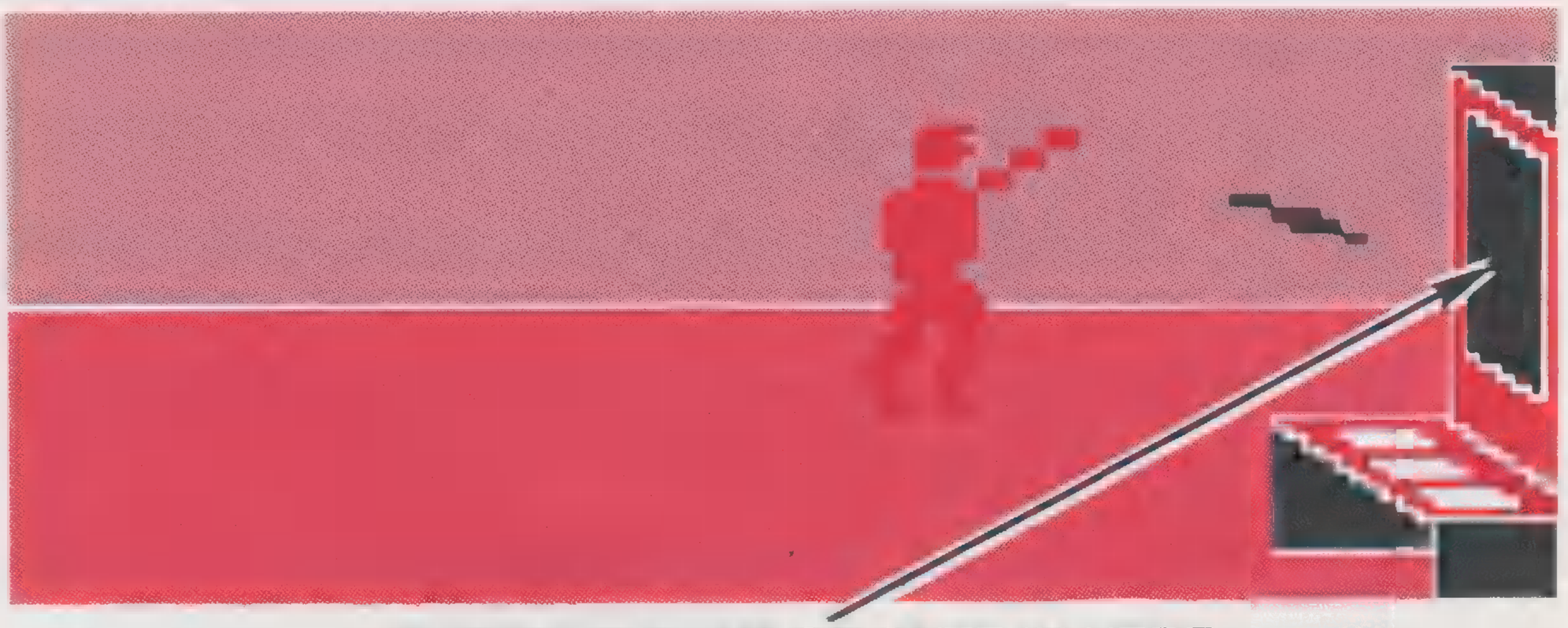
To move his arm counter clockwise, press either of the top action buttons. If you hold in this button, his arm moves to the #7 position and stops.

To move his arm clockwise, press the bottom left action button. If you hold in this button, his arm moves to the zero position and stops.

His arm does not move in a continuous circle. It swings in one direction and stops. Then you must move it the other way.

Grab a bit or byte: Mr. BASIC can grab a bit or byte with his arm in positions 1 to 7... but not in the zero position. When Mr. BASIC touches a bit or byte with his arm, he's got a hold of it! His arm then automatically moves to the zero position. Now he's ready to throw! Remember... bits and bytes are vital information. Since they're escaping from his computer system, Mr. BASIC wants to get them back in!

Throw a bit or byte into the terminal: Once Mr. BASIC has a bit or byte, he must throw it into the terminal. Press the bottom right action button to make Mr. BASIC throw the bit or byte.



THROW THE BIT OR BYTE IN HERE

You control the angle Mr. BASIC throws the bit or byte. Press the action button a short time and it angles down. Press the action button a long time and it angles up.

You can only throw one bit or byte at a time. Wait until the bit or byte hits or misses the terminal. Then Mr. BASIC can throw another! Even when Mr. BASIC throws the bits and bytes into the system, after awhile, they come back out again... it never ends!

It's a hit: If Mr. BASIC throws the bit or byte into the terminal... it's a hit! The number of bits and bytes in the system increases. If you get all 5 bits and bytes into the system, you get another Mr. BASIC. You can have a maximum of 9 Mr. BASICs!

It's a miss: If Mr. BASIC doesn't aim just right, the bit or byte will bounce back into the room. There's no points for this!

Bits and bytes can hit Mr. BASIC: If a bit or byte hits Mr. BASIC on the head, he's out of the game. Look at the screen to see how many are left.

To protect himself, Mr. BASIC can hold his arm in the #4 position. But you lose points for this, see scoring!

START A NEW GAME:

When you lose all Mr. BASICs, the game ends. Press any button or keypad key to start a new game.

SCORING:

The computer calculates your score every second!
You get 10 points for every bit or byte in the system
You loose 1 point for every bit or byte that's floating outside!
You loose 5 points if Mr. BASIC keeps his arm in the #4 position
You get another Mr. BASIC when he gets all 5 bits and bytes into the computer... with a maximum of 9 men!

USE THE COMPUTER KEYBOARD & BASIC TO PLAY THE MR. BASIC GAME

You can also play the Mr. BASIC Game by typing BASIC instructions into the computer with your computer keyboard.

STOP THE ACTION

To keep Mr. BASIC from getting hit on the head while you type in an instruction, press the STOP Key. This stops the action! When you have completed this, press STOP again to set the action going again.

You can also stop the action by typing in a BASIC instruction.

Type in:

CALL FREZ

and press Return.

This stops the action.

Type in:

CALL THAW

and press Return when you want the action to continue.

TIPS FOR TYPING BASIC ON THE SCREEN: See page 14.

MOVE MR. BASIC

Choose a speed and move Mr. BASIC left & right:

Mr. BASIC can move left or right at different rates of speed. Any negative number between -1 and -127 moves him left. -1 moves him slowly... -127 moves him very fast. Any positive number between 1 and 127 moves him right. 1 moves him slowly... 127 moves him very fast.

Choose the speed you want.

Type in:

XV5 =
followed by the speed number.

For example, type: XV5 = 10 *and press* Return

XV5 = 10 *tells the computer to move Mr. BASIC slowly to the right at a speed of* 10. *As soon as you press* Return, *he begins moving right.*

Try another speed.

Type in:

XV5 = -10
and press Return

Choose a speed & move Mr. BASIC up and down:

Mr. BASIC can move up or down at different speeds. Any negative number between -1 and -127 moves him up. -1 moves him slowly... -127 moves him very fast. Any positive number between 1 and 127 moves him down. 1 moves him slowly... 127 moves him very fast.

Choose the speed you want.

Type in:

YV5 =
followed by the speed number.
For example, type YV5 = -3 *and press* Return

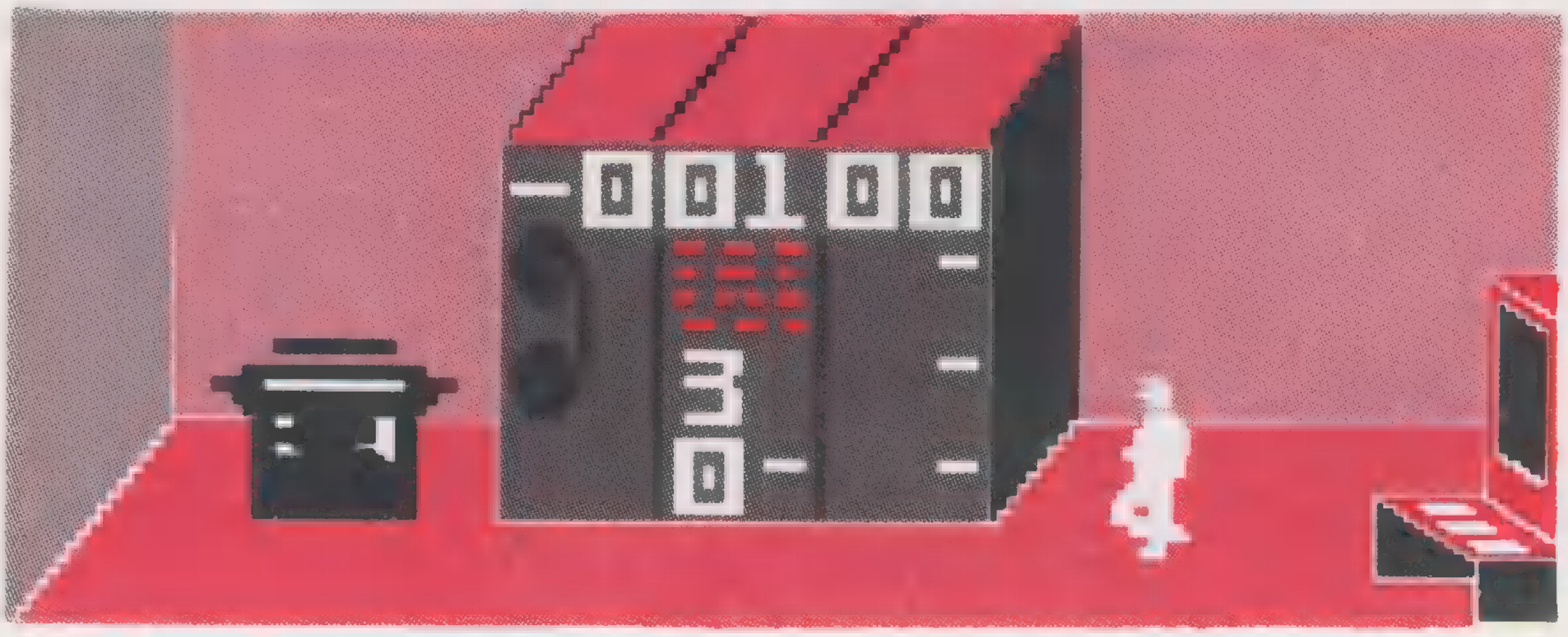
YV5 = -3 *tells the computer to move Mr. BASIC slowly up at the speed of -3. As soon as you press* Return, *Mr. BASIC begins moving up.*

Try another speed.

Type in:

YV5 = 1
and press Return

Move Mr. BASIC to a particular horizontal position:
Mr. BASIC can be positioned at 122 different horizontal positions. Position 18 is at the far left, and position 139 is at the far right.



MR. BASIC CAN BE PLACED ANYWHERE IN THIS RANGE.

Choose the position you want.

Type in:

XP5 =

followed by the position number.

For example, type XP5 = 25 *and press* Return

XP5 = 25 *tells the computer to move Mr. BASIC to position 25. As soon as you press* Return, *he immediately moves to that position.*

Try another position:

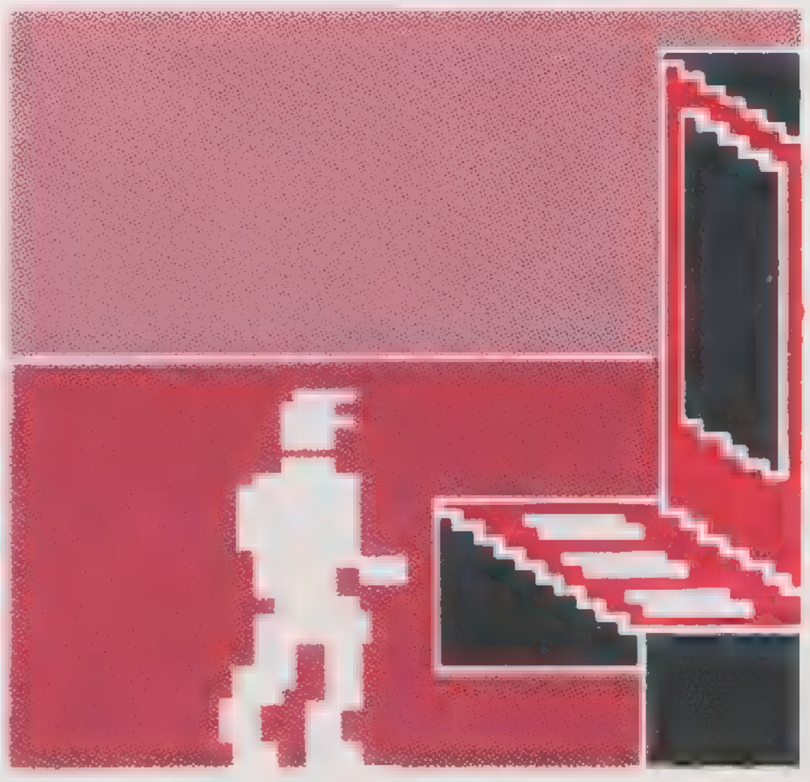
Type in:

XP5 = 100

and press Return

Move Mr. BASIC to a particular vertical position:

Mr. BASIC can move in 16 different vertical positions Position 65 is at the top and position 80 is at the bottom.



MR. BASIC CAN BE PLACED WITHIN THIS RANGE

Choose the position you want.

Type in:

YP5 =

followed by the position number.

For example, type YP5 = 70 *and press* Return.

YP5 = 70 *tells the computer to move Mr. BASIC to position 70. As soon as you press* Return, *Mr. BASIC immediately moves to that position.*

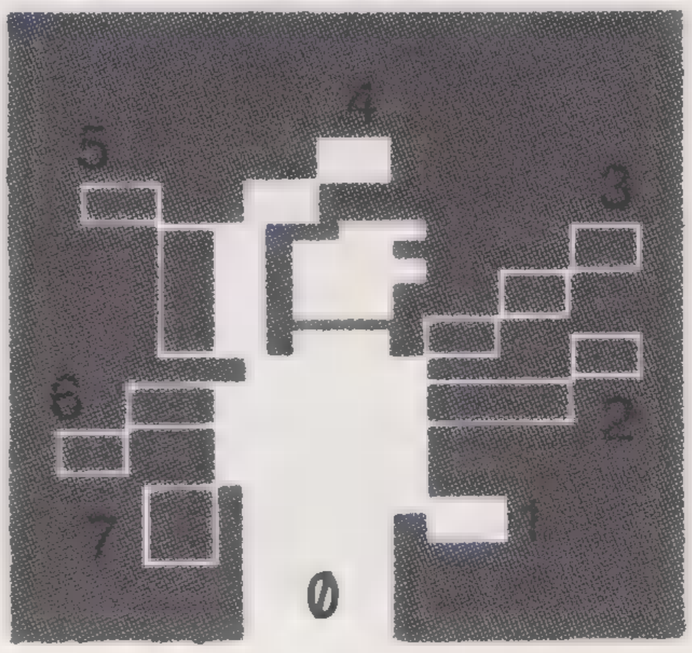
Try another position:

Type in:

YP5 = 80

and press Return

Move Mr. BASIC's arm: You can move his arm to eight different positions.



MR. BASIC'S ARM CAN BE POSITIONED WITHIN THIS RANGE

Choose the position you want, then type in AR0 = *followed by the angle number. For example, type* AR0 = 5 *and press* Return.

As soon as you press Return, *Mr. BASIC begins to move his arm to the position you chose.*

Try another position.

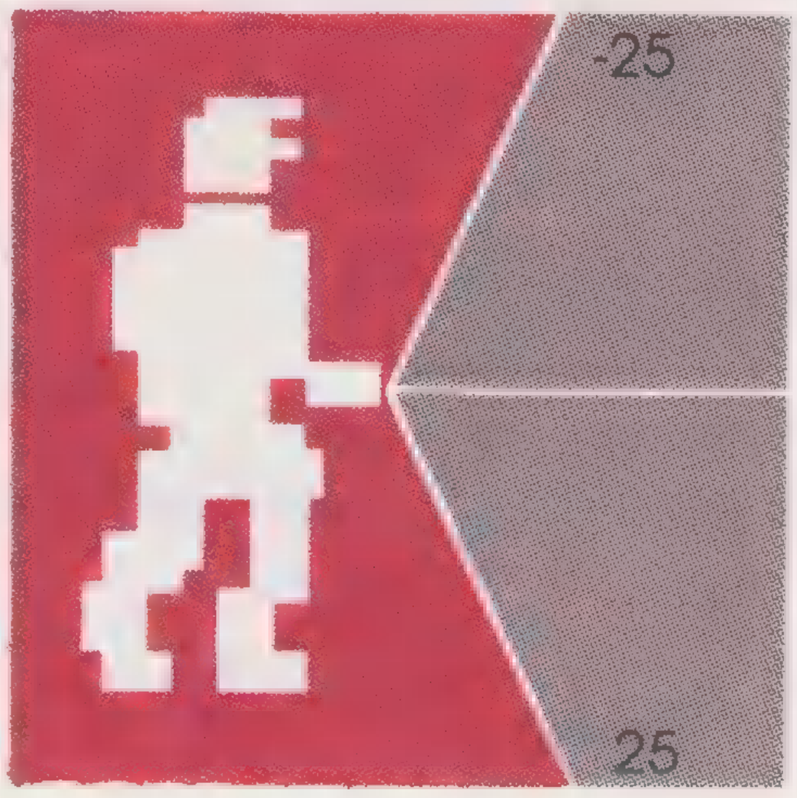
Type in:

AR0 = 3

and press Return

Grab the bit or byte: When Mr. BASIC touches a bit or byte with his arm, he's got a hold of it. His arm automatically moves to the zero position. Now he's ready to throw!

Throw the bit or byte into the terminal: Mr. BASIC can throw a bit or byte in one of 50 different angles. This ranges from -25 to 25... but not zero!



MR. BASIC CAN THROW WITHIN THIS RANGE OF ANGLES

Choose an angle you want, then type in A = *followed by the angle number and press* Return. *Then type in* CALL THRO *and press* Return. *For example, type*

A = -5

and press Return

CALL THRO

and press Return

A = -5 *sets the angle of the throw at* -5.
CALL THRO *tells the computer to throw the bit or byte.*

Try another angle.

Type in:

A = 20

and press Return

CALL THRO

and press Return

IT'S A HIT... IT'S A MISS: see page 56

BITS N' BYTES CAN HIT MR. BASIC: see page 56

START A NEW GAME: see page 56

SCORING: see page 56

WRITE PROGRAMS TO PLAY THE GAME

Up until now the instructions you typed in to control the man and his throwing used BASIC in Immediate Mode. This means you first typed the BASIC instructions on the screen. Then as soon as you pressed Return, the computer did what you asked. It followed your instructions immediately.

Now you will use BASIC in Programmed Mode. You will start each line of the program with a number. When you press Return, the computer holds that information. When you want the computer to begin the program, you type in the RUN command and press Return.

Note: To more fully understand the difference between Immediate and Programmed Modes, see Chapters 1 and 2 in the Step-By-Step Guide To Home Computing Book.

Try the following sample programs. They show you how to use Intellivision BASIC to program part of the game... or all of it!

MR. BASIC PROGRAM #1

This program tells the computer to make Mr. BASIC throw a bit or byte. Before you begin this program, use the handcontrollers and have Mr. BASIC grab a bit or byte.

Type in:

NEW

press Return

This starts a new program

10 A = 10

press Return

This sets the arm angle at position 10

20 CALL THRO

press Return

This tells the computer to make Mr. BASIC throw a bit or byte.

RUN

press Return

This runs lines 10 & 20

If you want to run this program again, be sure Mr. BASIC has a bit or byte. Now type in RUN *again, press* Return *and repeat.*

Want to try another angle and run this same program? Here's how to do it! With the cursor at the left of the screen, type in LIST 10 and press Return. Line 10 appears on the screen. Use your Arrow Keys and position the cursor on the 1... now type in another angle (a number from -25 to 25). Press the

space bar to erase a number. Press Return. Now type in RUN and press Return. By changing the number in line 10, you change the angle Mr. BASIC throws.

Note: This program used the Immediate Mode commands NEW & RUN. To learn more about these, see Chapter 1 in the Step-By-Step Guide To Home Computing Book.

MR. BASIC PROGRAM #2

This program puts Mr. BASIC at a particular position and has him throw at a particular angle. Before you begin this program, make sure Mr. BASIC has a bit or byte.

Type in:

```
NEW
```

press Return

This starts a new program

```
10 XP5 = 80
```

press Return

This moves Mr. BASIC to horizontal position 80

```
20 YP5 = 80
```

press Return

This moves Mr. BASIC to vertical position 80

```
30 A = 20
```

press Return

This sets the angle of the throw at 20

```
40 CALL THRO
```

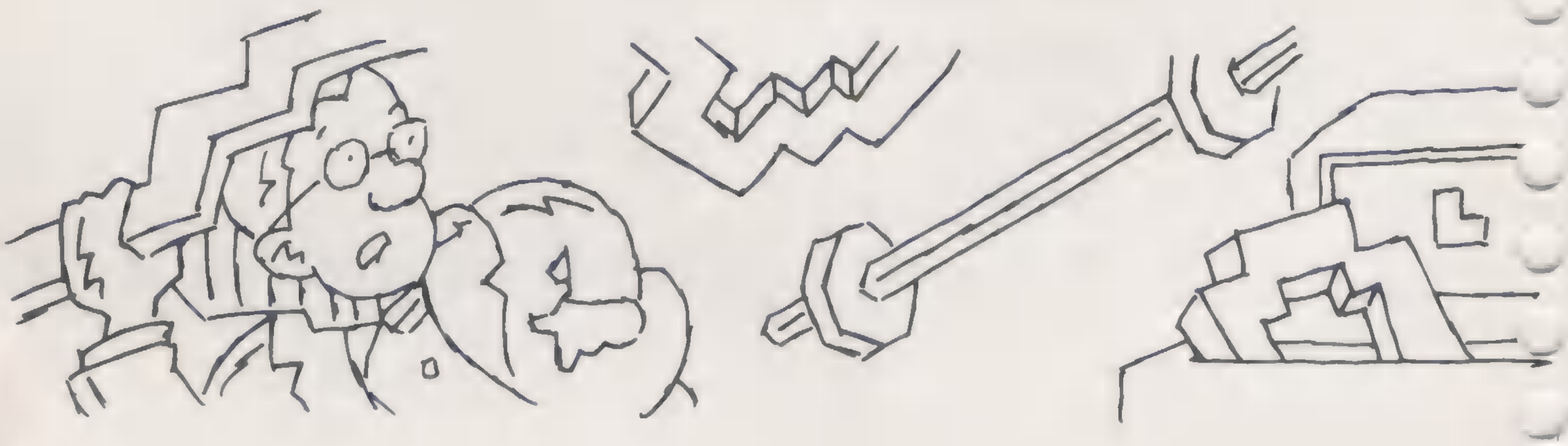
press Return

This makes Mr. BASIC throw the bit or byte .

If you want to run this program again, type in RUN *and press* Return.

Want to move Mr. BASIC to another position and use this same program? Here's how. With the cursor at the left of the screen, type in LIST 10,20 and press Return. Use your Arrow Keys to positon the cursor and type in another position (18-139) in line 10, press Return. Then type in another number (65-80) in line 20 and press Return. Type in RUN and press Return. By changing the number in lines 10 and 20, Mr. BASIC will stand in a different position.

Note: To learn about the XP and YP functions, see "Functions" in the Owner's Manual.



MR. BASIC PROGRAM #3

(Press Return after each line)
This program will play the game automatically.

Type in:

```
NEW
A=2
10 XV5=2
20 AR0=3
30 IF(GT0<0)GOTO 60
40 CALL THRO
50 IF(PC5>0) GOTO 50
60 IF(XP5<20)XV5=2
70 IF(XP5>120)XV5=-2
80 IF(XV5>0)AR0=5
90 IF(XV5>0)AR0=3
100 GOTO 30
RUN
```

A=2 *sets up the throwing angle.*
LINE 10 *starts Mr. BASIC moving to the right.*
LINE 20 *puts his arm in the North East position.*

LINE 30 *tells the computer to go to line* 60 *if he doesn't have a bit or byte.*
LINE 40 *makes MR. BASIC throw the bit or byte.*
LINE 50 *tells the computer to wait until the throw is completed.*
LINE 60 *starts Mr. BASIC moving right if he has gotten too far left.*
LINE 70 *starts Mr. BASIC moving left if he has gotten too far right.*
LINE 80 *puts his arm in the North West position if he is moving right.*
LINE 90 *puts his arm in the North East position if he is moving right.*
LINE 100 *sends the computer back to line* 30 *to do it all again*!

If the game ends while you are running the program, press the hand controller to restart the game. You must also hit ESC to bring the cursor back.

Note: The GT function in line 30 checks to see if Mr. BASIC has grabbed a bit or byte. If he doesn't have one, GT=-1. If he has a bit or byte, GT= the number for the one he has (0-4).

Let's add to this program. With the cursor at the left of the screen, type LIST and press Return. You will add four lines that will make the program check to see if there is a bit or byte near Mr. BASIC. If there is, he will put his arm in the #4 position to protect himself.

Type in:

```
71 CALL NEAR
72 IF(N< Ø) GOTO 8Ø
73 ARØ = 4
74 GOTO 3Ø
```

LINE 71 *finds out if there is a bit or byte near Mr. BASIC.*

LINE 72 *makes Mr. BASIC carry on if there is no bit or byte nearby.*

LINE 73 *makes him put his arm in the #4 position if there is a bit or byte nearby.*

LINE 74 *sends the computer back to* LINE 30 *to start again.*

Note: The CALL NEAR in line 71 checks to see if there is a bit or byte near Mr. BASIC. If there is none nearby, the computer returns a N=-1. If there is a bit or byte nearby, N= the object of the bit or byte nearby (Ø-4).

Note: To learn about IF and GOTO, see chapters 6 and 5 in the Step-By-Step Guide To Home Computing Book. To learn about the XV and XP functions, see "Functions" in the Owner's Manual.

You can temporarily change the objects on the screen to different colors. First you need to know that every object on the screen has been given a number.

0 = *a byte*
1 = *a byte*
2 = *a byte*
3 = *a bit*
4 = *a bit*
5 = *Mr. BASIC's arm*
6 = *his head*
7 = *his body*

You also need to know that there are fifteen possible colors. Colors are numbered 0 - 15. See Chapter 9 in the Step-By-Step Guide To Home Computing Book to get the color particulars.

Now let's try it (Press Return after each line)

Type in:

```
NEW
10 INPU O
20 INPU C
30 CO(0) = C
40 GOTO 10
RUN
```

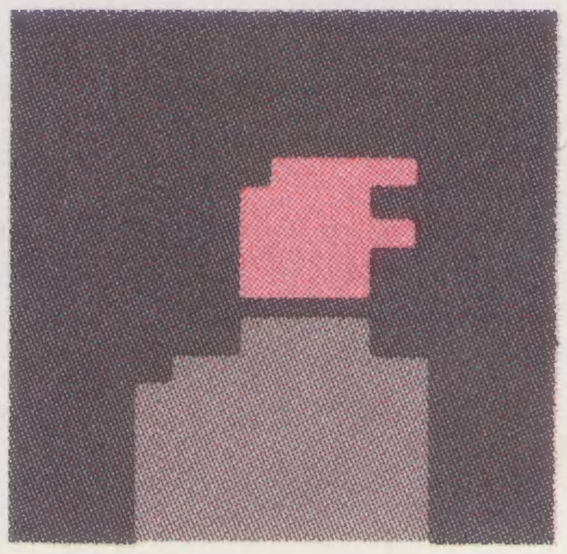
LINE 10 *tells the computer to wait for you to type in an object number* (0-7) *and press Return.*

LINE 20 *tells the computer to wait for you to type in a color number* (0-15) *and press Return.*

LINE 30 *makes the object you chose the color you chose.*

LINE 40 *starts the program over again... enter another object number and another color number.*

For example, if you enter 6 *and press Return, and enter* 12 *and press Return, Mr. BASIC's head turns pink.*



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